

# **PARTS MANUAL**

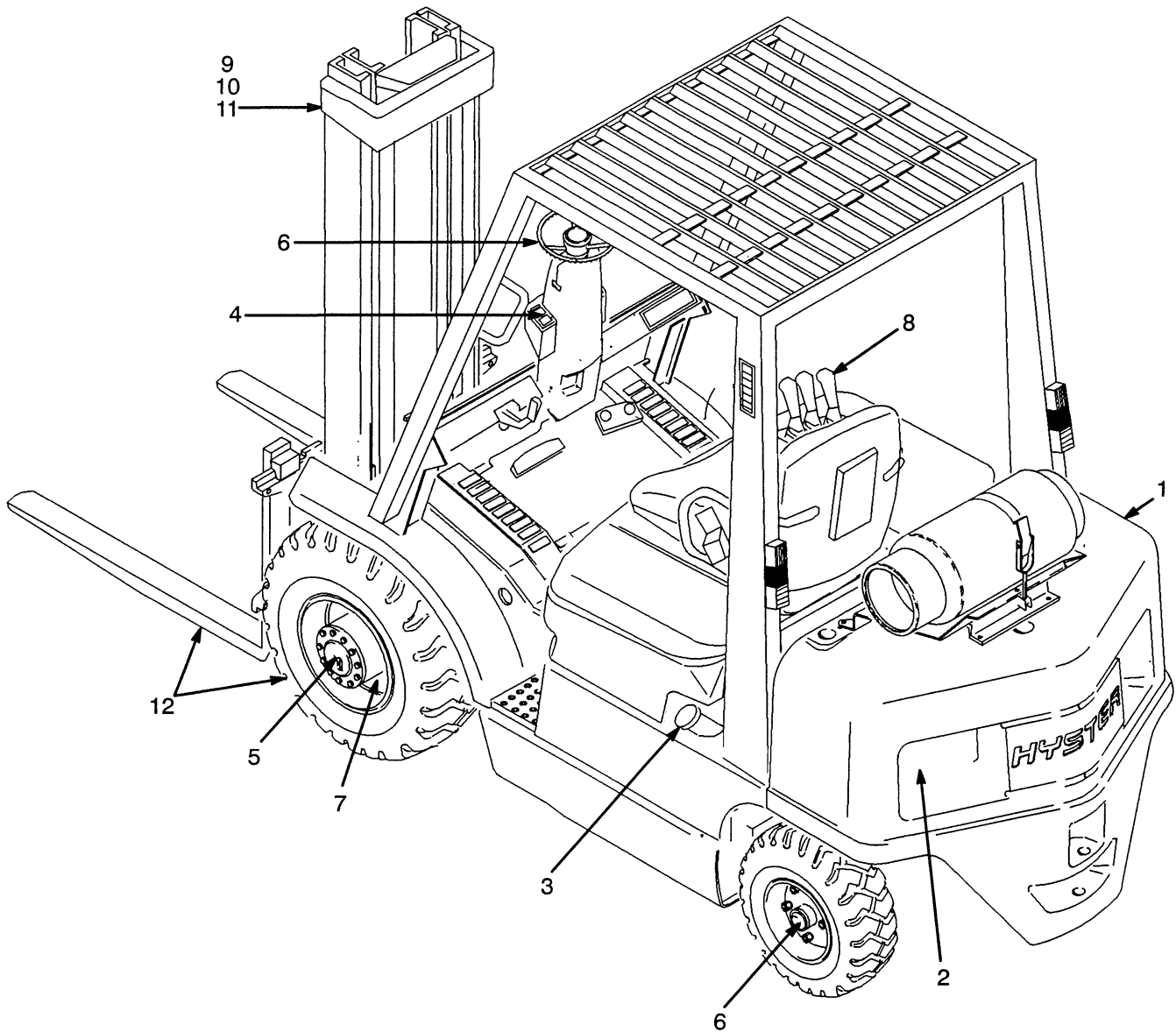
**CHALLENGER  
H45-50-55-60-65XM**

**(D177)**

**CUSTOMER EDITION**

# ***HYSTER***

# ILLUSTRATED CONTENTS



REF	SECTION	PAGE
1	Frame .....	1
2	Engine .....	13
3	Fuel System .....	107
4	Electrical System .....	175
5	Transmission .....	285
6	Steering System .....	307
7	Brake System .....	315
8	Hydraulic System .....	323
9	Two Stage Limited Free-Lift Mast .....	347
10	Three Stage Full Free-Lift Mast .....	369
11	Two Stage Full Free-Lift Mast .....	403
12	Optional .....	435
13	Numerical Index .....	481



**TABLE OF CONTENTS**

<b>DESCRIPTION</b>	<b>PAGE NO.</b>
<b>A</b>	
ACCESSORIES (Figure 243) CAB .....	Page 460
AIR FILTER AND BREATHER (Figure 89) GASOLINE & LPG 3.0L .....	Page 152
AIR FILTER (Figure 88) GASOLINE AND LPG 2.0L & 2.2L .....	Page 150
AIR FILTER (Figure 90) DIESEL .....	Page 154
ALTERNATOR (Figure 141) GASOLINE & LPG 2.0L .....	Page 260
ALTERNATOR (Figure 142) GASOLINE & LPG 2.2L .....	Page 261
ALTERNATOR (Figure 143) GASOLINE & LPG 3.0L LAST USED ON S/N D177B41709 .....	Page 262
ALTERNATOR (Figure 144) GASOLINE & LPG 3.0L FIRST USED ON S/N D177B-41710 .....	Page 264
ALTERNATOR (Figure 145) DIESEL 2.4L .....	Page 266
ALTERNATOR (Figure 146) DIESEL 2.8L & 3.1L .....	Page 268
ALTERNATOR (Figure 147) TYPES GS, LPS & DS LAST USED ON S/N D177B-42119 .....	Page 270

## TABLE OF CONTENTS

DESCRIPTION	PAGE NO.
-------------	----------

### A (Continued)

ALTERNATOR (Figure 148) TYPES GS, LPS & DS FIRST USED ON S/N D177B-42120 .....	Page 272
--	----------

AUDIBLE ALARMS (Figure 252) .....	Page 471
-----------------------------------	----------

AUXILIARY TUBE EXTENSION KIT (Figure 253) TWO-STAGE LFL .....	Page 472
--	----------

AUXILIARY TUBE EXTENSION KIT (Figure 254) TWO-STAGE & THREE-STAGE FFL .....	Page 474
--	----------

### B

BRAKE (Figure 173) .....	Page 318
--------------------------	----------

BRAKE LINES (Figure 174) .....	Page 320
--------------------------------	----------

BRAKE PEDAL LINKAGE (Figure 172) .....	Page 316
--	----------

### C

CAB KIT (Figure 238) WITH DOORS MOUNTED INSIDE OVERHEAD GUARD .....	Page 452
--	----------

CAB KIT (Figure 239) WITH DOORS MOUNTED AGAINST OUT-BOARD SIDE OF OVERHEAD GUARD .....	Page 454
--	----------

CAB KIT (Figure 240) PVC .....	Page 456
-----------------------------------	----------

CAB SOUND LINERS (Figure 245) .....	Page 464
-------------------------------------	----------

**TABLE OF CONTENTS**

<b>DESCRIPTION</b>	<b>PAGE NO.</b>
<b>C (Continued)</b>	
CAMSHAFT & OIL PAN (Figure 32) GASOLINE & LPG 3.0L .....	Page 54
CAMSHAFT & TIMING GEAR (Figure 23) GASOLINE & LPG 2.2L .....	Page 40
CAMSHAFT & VALVES (Figure 13) GASOLINE & LPG 2.0L .....	Page 27
CAMSHAFT & VALVES (Figure 41) DIESEL 2.4L .....	Page 69
CAMSHAFT & VALVES (Figure 51) DIESEL 2.8L LAST USED ON S/N D177B-8291 .....	Page 84
CAMSHAFT & VALVES (Figure 61) DIESEL 3.1L FIRST USED ON S/N D177B-8292 .....	Page 100
CARBURETOR (Figure 82) GASOLINE 2.0L .....	Page 139
CARBURETOR (Figure 83) LPG 2.0L .....	Page 140
CARBURETOR (Figure 85) LPG 2.2L .....	Page 144
CARBURETOR (Figure 86) LPG 3.0L .....	Page 146
CARRIAGE (Figure 194) TWO STAGE LFL FOUR ROLLER .....	Page 358

## TABLE OF CONTENTS

<u>DESCRIPTION</u>	<u>PAGE NO.</u>
<b>C (Continued)</b>	
CARRIAGE (Figure 195) TWO STAGE LFL SIX ROLLER .....	Page 359
CARRIAGE (Figure 208) THREE STAGE FFL SIX ROLLER (LAST USED ON S/N B508V-4186, B563V-2161) .....	Page 391
CARRIAGE (Figure 209) THREE STAGE FFL SIX ROLLER (FIRST USED ON S/N B508V-4187, B563V-2162) .....	Page 392
CARRIAGE (Figure 222) TWO STAGE FFL FOUR ROLLER .....	Page 423
CARRIAGE (Figure 223) TWO STAGE FFL SIX ROLLER .....	Page 424
CLUTCH FORWARD AND REVERSE (Figure 159) LAST USED ON TRANSMISSION S/N T51,T52,T53,T78 .....	Page 290
CLUTCH-FORWARD & REVERSE (Figure 160) FIRST USED ON TRANSMISSION S/N T80M-1501, T81M-1501,T83M-1501 .....	Page 292
CONTROL VALVE (Figure 163) TRANSMISSION .....	Page 298
CONTROL VALVE (Figure 187) THREE FUNCTION .....	Page 342
COOLING (Figure 19) GASOLINE & LPG 2.0L .....	Page 33

**TABLE OF CONTENTS**

<b>DESCRIPTION</b>	<b>PAGE NO.</b>
<b>C (Continued)</b>	
COOLING (Figure 27) GASOLINE & LPG 2.2L .....	Page 45
COOLING (Figure 31) GASOLINE & LPG 3.0L .....	Page 52
COUNTERWEIGHT (Figure 3) .....	Page 6
CRANKCASE & OIL PAN (Figure 40) DIESEL 2.4L .....	Page 68
CRANKCASE & OIL PAN (Figure 53) DIESEL 2.8L LAST USED ON S/N D177B-8291 .....	Page 88
CRANKCASE & OIL PAN (Figure 63) DIESEL 3.1L FIRST USED ON S/N D177B-8292 .....	Page 103
CRANKSHAFT & PISTON (Figure 12) GASOLINE & LPG 2.0L .....	Page 26
CRANKSHAFT & PISTON (Figure 28) GASOLINE & LPG 3.0L .....	Page 46
CRANKSHAFT & PISTON (Figure 42) DIESEL 2.4L .....	Page 70
CRANKSHAFT & PISTON (Figure 52) DIESEL 2.8L LAST USED ON S/N D177B-8291 .....	Page 86
CRANKSHAFT & PISTON (Figure 62) DIESEL 3.1L FIRST USED ON S/N D177B-8292 .....	Page 102

---

**TABLE OF CONTENTS**

<b>DESCRIPTION</b>	<b>PAGE NO.</b>
<b>C (Continued)</b>	
CYLINDER BLOCK (Figure 10) GASOLINE & LPG 2.0L .....	Page 24
CYLINDER BLOCK (Figure 21) GASOLINE & LPG 2.2L .....	Page 36
CYLINDER BLOCK (Figure 37) DIESEL 2.4L .....	Page 62
CYLINDER BLOCK (Figure 49) DIESEL 2.8L LAST USED ON S/N D177B-8291 .....	Page 80
CYLINDER BLOCK (Figure 59) DIESEL 3.1L FIRST USED ON S/N D177B-8292 .....	Page 96
CYLINDER (Figure 192) TWO STAGE LFL H45-55XM .....	Page 354
CYLINDER (Figure 193) TWO STAGE LFL H60-65XM .....	Page 356
CYLINDER HEAD (Figure 11) GASOLINE & LPG 2.0L .....	Page 25
CYLINDER HEAD (Figure 22) GASOLINE & LPG 2.2L .....	Page 38
CYLINDER HEAD (Figure 29) GASOLINE & LPG 3.0L .....	Page 48

**TABLE OF CONTENTS**

<b>DESCRIPTION</b>	<b>PAGE NO.</b>
<b>C (Continued)</b>	
CYLINDER HEAD (Figure 39) DIESEL 2.4L .....	Page 66
CYLINDER HEAD (Figure 50) DIESEL 2.8L LAST USED ON S/N D177B-8291 .....	Page 82
CYLINDER HEAD (Figure 60) DIESEL 3.1L FIRST USED ON S/N D177B-8292 .....	Page 98
<b>D</b>	
DIFFERENTIAL (Figure 161) LAST USED ON TRANSMISSION S/N T51,T52,T53,T78 .....	Page 294
DIFFERENTIAL (Figure 162) FIRST USED ON TRANSMISSION S/N T80M-1501, T81M-1501,T83M-1501 .....	Page 296
DISTRIBUTOR (Figure 139) GASOLINE & LPG 2.0L .....	Page 258
DISTRIBUTOR (Figure 140) GASOLINE & LPG 3.0L .....	Page 259
DRIVE & REAR LIGHT (Figure 237) .....	Page 451
DRIVE AXLE (Figure 167) .....	Page 304
DUAL FUEL (Figure 71) 3.0L .....	Page 118

**TABLE OF CONTENTS**

<b>DESCRIPTION</b>	<b>PAGE NO.</b>
<b>E</b>	
ELECTRICAL CONNECTORS (Figure 156) LESS TERMINALS .....	Page 284
ELECTRICAL (Figure 112) GASOLINE & LPG 2.2L .....	Page 196
ELECTRICAL (Figure 113) GASOLINE & LPG 3.0L LAST USED ON S/N D177B-35854 .....	Page 200
ELECTRICAL (Figure 114) GM 3.0L GASOLINE FIRST USED ON S/N D177B-35855 .....	Page 204
ELECTRICAL (Figure 115) GM 3.0L LPG FIRST USED ON S/N D177B-35855 .....	Page 206
ELECTRICAL (Figure 116) GASOLINE & LPG 2.0L .....	Page 210
ELECTRICAL (Figure 117) DIESEL .....	Page 212
ELECTRICAL (Figure 136) LPG FIELD CONVERSION 2.2L .....	Page 250
ELECTRICAL (Figure 137) TYPES GS,LPS & DS .....	Page 252
ELECTRICAL (Figure 138) TYPES GS & LPS 3.0L .....	Page 256
ELECTRICAL (Figure 17) GASOLINE & LPG 2.0L .....	Page 31



**TABLE OF CONTENTS**

<b>DESCRIPTION</b>	<b>PAGE NO.</b>
<b>E (Continued)</b>	
ELECTRICAL (Figure 30) GASOLINE & LPG 3.0L .....	Page 50
ELECTRICAL-COWL (Figure 103) LAST USED ON S/N D177B-35854 .....	Page 180
ELECTRICAL-COWL (Figure 104) FIRST USED ON S/N D177B-35855 .....	Page 182
EMISSION CONTROL (Figure 38) DIESEL .....	Page 64
ENGINE HARNESS (Figure 124) GASOLINE 2.2L .....	Page 226
ENGINE HARNESS (Figure 126) GASOLINE 3.0L LAST USED ON S/N D177B-35854 .....	Page 230
ENGINE HARNESS (Figure 127) GASOLINE 3.0L FIRST USED ON S/N D177B-35855 .....	Page 232
ENGINE HARNESS (Figure 128) LPG 2.2L .....	Page 234
ENGINE HARNESS (Figure 131) LPG 3.0L WITHOUT MSTs FIRST USED ON S/N D177B-39472 .....	Page 240
ENGINE HARNESS (Figure 132) LPG 3.0L WITH MSTs FIRST USED ON S/N D177B-39472 .....	Page 242

## TABLE OF CONTENTS

<u>DESCRIPTION</u>	<u>PAGE NO.</u>
--------------------	-----------------

### E (Continued)

ENGINE HARNESS-LPS (Figure 134) LPG 2.2L .....	Page 246
ENGINE MOUNT (Figure 33) DIESEL .....	Page 56
ENGINE MOUNT (Figure 5) GASOLINE & LPG 2.0L & 2.2L .....	Page 18
ENGINE MOUNT (Figure 6) GASOLINE & LPG 3.0L .....	Page 19
EXHAUST (Figure 34) DIESEL 2.4L .....	Page 57
EXHAUST (Figure 35) DIESEL 2.8L & 3.1L .....	Page 58
EXHAUST (Figure 7) GASOLINE & LPG .....	Page 20
EXHAUST (Figure 8) OVERHEAD .....	Page 21

### F

FENDERS (Figure 230) .....	Page 438
FILTER & LOCK-OFF VALVE (Figure 94) LPG .....	Page 162
FIRE EXTINGUISHER (Figure 251) .....	Page 470

**TABLE OF CONTENTS**

<b>DESCRIPTION</b>	<b>PAGE NO.</b>
<b>F (Continued)</b>	
FLOW VALVE (Figure 182) LAST USED ON S/N D177B-15601 .....	Page 334
FLOW VALVE (Figure 183) FIRST USED ON S/N D177B-15602 .....	Page 335
FLYWHEEL (Figure 20) GASOLINE & LPG .....	Page 34
FLYWHEEL (Figure 48) DIESEL 2.4L, 2.8L & 3.1L .....	Page 78
FORKS (Figure 200) TWO STAGE LFL .....	Page 366
FORKS (Figure 213) THREE STAGE FFL .....	Page 400
FORKS (Figure 228) TWO STAGE FFL .....	Page 432
FRAME & FLOORPLATES (Figure 1) .....	Page 2
FREE LIFT (Figure 205) THREE STAGE FFL .....	Page 378
FREE LIFT (Figure 217) TWO STAGE FFL .....	Page 410
FREE LIFT TWO STAGE FFL (Figure 217 Continued) .....	Page 412

## TABLE OF CONTENTS

DESCRIPTION	PAGE NO.
<b>F (Continued)</b>	
FREE-LIFT CYLINDER (Figure 207) THREE STAGE FFL .....	Page 384
FREE-LIFT CYLINDER (Figure 220) TWO STAGE FFL .....	Page 416
FUEL & ELECTRICAL (Figure 25) GASOLINE & LPG 2.2L .....	Page 42
FUEL (Figure 18) GASOLINE & LPG 2.0L .....	Page 32
FUEL (Figure 69) LPG 3.0L LAST USED ON S/N D177B-39471 .....	Page 114
FUEL (Figure 70) LPG 3.0L FIRST USED ON S/N D177B-39472 .....	Page 116
FUEL (Figure 74) LPG FIELD CONVERSION 2.2L .....	Page 124
FUEL (Figure 75) LPG 2.0L .....	Page 126
FUEL (Figure 76) GASOLINE 2.0L .....	Page 128
FUEL (Figure 77) GASOLINE 2.2L .....	Page 130
FUEL (Figure 78) GASOLINE 3.0L .....	Page 132

**TABLE OF CONTENTS**

<b>DESCRIPTION</b>	<b>PAGE NO.</b>
<b>F (Continued)</b>	
FUEL (Figure 79) DIESEL 2.4L .....	Page 134
FUEL (Figure 80) DIESEL 3.1L .....	Page 136
FUEL INJECTION (Figure 91) DIESEL 2.4L .....	Page 156
FUEL INJECTION (Figure 92) DIESEL 2.8L LAST USED ON S/N D177B-8291 .....	Page 158
FUEL INJECTION (Figure 93) DIESEL 3.1L FIRST USED ON S/N D177B-8292 .....	Page 160
FUEL SYSTEM (Figure 68) LPG 2.2L .....	Page 112
<b>G</b>	
GOVERNOR (Figure 72) LPG 3.0L LAST USED ON S/N D177B-39471 .....	Page 120
GOVERNOR (Figure 81) GASOLINE & LPG 2.0L .....	Page 138
<b>H</b>	
HARNESS AND SWITCH (Figure 133) DUAL FUEL 3.0L .....	Page 244
HARNESS (Figure 105) COWL LAST USED ON S/N D177B-35854 .....	Page 184

## TABLE OF CONTENTS

DESCRIPTION	PAGE NO.
-------------	----------

### H (Continued)

HARNESS (Figure 106) COWL FIRST USED ON S/N D177B-35855 .....	Page 186
HARNESS (Figure 107) CLUSTER LAST USED ON S/N D177B-35854 .....	Page 188
HARNESS (Figure 108) CLUSTER FIRST USED ON S/N D177B-35855 .....	Page 189
HARNESS (Figure 109) CLUSTER POWER .....	Page 190
HARNESS (Figure 110) LIGHTING LAST USED ON S/N D177B-35854 .....	Page 192
HARNESS (Figure 111) FORWARD/REVERSE LEVER .....	Page 195
HARNESS (Figure 118) DIESEL LAST USED ON S/N D177B-35854 .....	Page 214
HARNESS (Figure 119) DIESEL FIRST USED ON S/N D177B-35855 .....	Page 216
HARNESS (Figure 120) CHASSIS LAST USED ON S/N D177B-35854 .....	Page 218
HARNESS (Figure 121) CHASSIS FIRST USED ON S/N D177B-35855 .....	Page 220

**TABLE OF CONTENTS**

<b>DESCRIPTION</b>	<b>PAGE NO.</b>
<b>H (Continued)</b>	
HARNESS (Figure 122) GASOLINE & LPG 2.0L LAST USED ON S/N D177B-35854 .....	Page 222
HARNESS (Figure 123) GASOLINE & LPG 2.0L FIRST USED ON S/N D177B-35855 .....	Page 224
HARNESS (Figure 135) LPG FIELD CONVERSION 2.2L .....	Page 248
HARNESS (Figure 246) WIPER .....	Page 465
HARNESS (Figure 247) CAB (REAR) .....	Page 466
HARNESS (Figure 248) CAB (COWL) .....	Page 467
HARNESS (Figure 256) POWERTRAIN PROTECTION .....	Page 478
HARNESS ROUTING (Figure 242) CAB .....	Page 459
HARNESS-REAR (Figure 249) CHASSIS .....	Page 468
HEADER HOSE (Figure 199) TWO STAGE LFL .....	Page 364
HEADER HOSE (Figure 212) THREE STAGE FFL .....	Page 396

**TABLE OF CONTENTS**

<b>DESCRIPTION</b>	<b>PAGE NO.</b>
--------------------	-----------------

**H (Continued)**

HEADER HOSE (Figure 227) TWO STAGE FFL .....	Page 428
---	----------

HEATER (Figure 244) CAB .....	Page 462
----------------------------------	----------

HOOD (Figure 2) .....	Page 4
-----------------------	--------

HYDRAULIC (Figure 177) .....	Page 324
------------------------------	----------

HYDRAULIC PUMP (Figure 178) SINGLE GEAR .....	Page 326
--	----------

HYDRAULIC PUMP (Figure 179) SINGLE GEAR .....	Page 328
--	----------

HYDRAULIC PUMP (Figure 180) DOUBLE GEAR .....	Page 330
--	----------

HYDRAULIC PUMP (Figure 181) DOUBLE GEAR .....	Page 332
--	----------

**I**

INJECTION PUMP (Figure 87) DIESEL 2.4L, 2.8L & 3.1L .....	Page 149
--	----------

INNER MAST (Figure 190) TWO STAGE LFL .....	Page 350
--	----------

INNER MAST (Figure 203) THREE STAGE FFL .....	Page 374
--	----------



**TABLE OF CONTENTS**

<b>DESCRIPTION</b>	<b>PAGE NO.</b>
<b>I (Continued)</b>	
INNER MAST (Figure 215) TWO STAGE FFL .....	Page 406
INSTRUMENT CLUSTER (Figure 153) .....	Page 280
INSTRUMENT PANEL (Figure 152) .....	Page 278
INTERMEDIATE MAST (Figure 202) THREE STAGE FFL .....	Page 372
<b>L</b>	
LABELS .....	Page 10
LIFT EYE (Figure 229) .....	Page 437
LIFT (Figure 191) TWO STAGE LFL .....	Page 352
LIGHTS (Figure 155) .....	Page 283
LOAD BACKREST EXTENSION (Figure 196) TWO STAGE LFL .....	Page 360
LOAD BACKREST EXTENSION (Figure 210) THREE STAGE FFL .....	Page 393
LOAD BACKREST EXTENSION (Figure 224) TWO STAGE FFL .....	Page 425
LOAD BACKREST EXTENSION (Figure 233) 48 INCH (1220 mm) .....	Page 443

**TABLE OF CONTENTS**

<b>DESCRIPTION</b>	<b>PAGE NO.</b>
--------------------	-----------------

**L (Continued)**

LPG CONVERTER (Figure 95) LAST USED ON S/N D177B-10965 .....	Page 163
---	----------

LPG CONVERTER (Figure 96) FIRST ON S/N D177B-10966 .....	Page 164
---	----------

LPG MIXER (Figure 73) DUAL FUEL 3.0L .....	Page 122
---	----------

LPG TANK (Figure 67) .....	Page 110
----------------------------	----------

LUBRICATION SYSTEM (Figure 66) DIESEL 3.1L FIRST USED ON S/N D177B-8292 .....	Page 106
---	----------

**M**

MAIN CYLINDER (Figure 206) THREE STAGE FFL .....	Page 382
---	----------

MAIN CYLINDER (Figure 218) TWO STAGE FFL LEFT HAND .....	Page 414
--	----------

MAIN CYLINDER (Figure 219) TWO STAGE FFL RIGHT HAND .....	Page 415
---	----------

MAIN LIFT (Figure 204) THREE STAGE FFL .....	Page 376
---	----------

MAIN LIFT (Figure 216) TWO STAGE FFL .....	Page 408
---	----------

**TABLE OF CONTENTS**

<b>DESCRIPTION</b>	<b>PAGE NO.</b>
<b>M (Continued)</b>	
MANIFOLD (Figure 15) GASOLINE & LPG 2.0L .....	Page 29
MANIFOLD (Figure 24) GASOLINE & LPG 2.2L .....	Page 41
MANIFOLD (Figure 44) DIESEL 2.4L .....	Page 73
MANIFOLD (Figure 55) DIESEL 2.8L LAST USED ON S/N D177B-8291 .....	Page 90
MANIFOLDS (Figure 65) DIESEL 3.1L FIRST USED ON S/N D177B-8292 .....	Page 105
MAST INSTALLATION (Figure 197) TWO STAGE LFL .....	Page 361
MAST INSTALLATION (Figure 198) TWO STAGE LFL .....	Page 362
MAST INSTALLATION (Figure 211) THREE STAGE FFL .....	Page 394
MAST INSTALLATION (Figure 225) TWO STAGE FFL .....	Page 426
MAST INSTALLATION (Figure 226) TWO STAGE FFL .....	Page 427
MASTER CYLINDER (Figure 176) .....	Page 322

**TABLE OF CONTENTS**

<b>DESCRIPTION</b>	<b>PAGE NO.</b>
--------------------	-----------------

**M (Continued)**

MIRROR (Figure 250) .....	Page 469
MONOTROL PEDAL (Figure 102) .....	Page 173

**O**

OIL FILTER (Figure 46) DIESEL 2.4L .....	Page 76
OIL FILTER (Figure 57) DIESEL 2.8L & 3.1L .....	Page 94
OIL PUMP & FILTER (Figure 16) GASOLINE & LPG 2.0L .....	Page 30
OIL PUMP (Figure 26) GASOLINE & LPG 2.2L .....	Page 43
OIL PUMP (Figure 47) DIESEL 2.4L .....	Page 77
OIL PUMP (Figure 58) DIESEL 2.8L & 3.1L .....	Page 95
OUTER MAST (Figure 189) TWO STAGE LFL .....	Page 348
OUTER MAST (Figure 201) THREE STAGE FFL .....	Page 370
OUTER MAST (Figure 214) TWO STAGE FFL .....	Page 404

**TABLE OF CONTENTS**

<b>DESCRIPTION</b>	<b>PAGE NO.</b>
<b>P</b>	
PARK BRAKE (Figure 175) .....	Page 321
PEDAL LINKAGE (Figure 101) .....	Page 172
POWERTRAIN PROTECTION SYSTEM (Figure 255) .....	Page 476
PUMP DRIVE (Figure 164) LAST USED ON TRANSMISSION S/N T80M-1644 .....	Page 300
PUMP DRIVE (Figure 165) FIRST USED ON S/N T80M-1645 .....	Page 301
<b>R</b>	
RADIATOR & HOSES (Figure 36) DIESEL .....	Page 60
RADIATOR & HOSES (Figure 9) GASOLINE & LPG .....	Page 22
<b>S</b>	
SEAT (Figure 4) .....	Page 8
SHIFT LEVER (Figure 154) .....	Page 282
SIDESHIFT CARRIAGE (Figure 231) .....	Page 440
SIDESHIFT CYLINDER (Figure 232) .....	Page 442
STARTER (Figure 149) GASOLINE & LPG 2.0L .....	Page 274

**TABLE OF CONTENTS**

<b>DESCRIPTION</b>	<b>PAGE NO.</b>
--------------------	-----------------

**S (Continued)**

STARTER (Figure 150) DIESEL 2.4L, 2.8L & 3.1L .....	Page 275
STARTER (Figure 151) GASOLINE & LPG 2.2L & 3.0L .....	Page 276
STEERING AXLE (Figure 169) .....	Page 310
STEERING CONTROL UNIT (Figure 170) .....	Page 312
STEERING CYLINDER (Figure 171) .....	Page 313
STEERING POD (Figure 168) .....	Page 308
STROBE LIGHT (Figure 236) .....	Page 450

**T**

THROTTLE BODY INJECTION (Figure 84) GASOLINE 2.2L .....	Page 142
THROTTLE LINKAGE (Figure 100) GASOLINE & LPG 2.0L .....	Page 171
THROTTLE LINKAGE (Figure 97) DIESEL .....	Page 165
THROTTLE LINKAGE (Figure 98) GASOLINE & LPG 2.2L .....	Page 167
THROTTLE LINKAGE (Figure 99) GASOLINE & LPG 3.0L .....	Page 169

**TABLE OF CONTENTS**

<b>DESCRIPTION</b>	<b>PAGE NO.</b>
<b>T (Continued)</b>	
TILT CYLINDER (Figure 184) GROUP NUMBER 8601501 .....	Page 337
TIMING GEAR COVER & OIL PAN (Figure 14) GASOLINE & LPG 2.0L .....	Page 28
TIMING GEAR (Figure 43) DIESEL 2.4L .....	Page 72
TIMING GEAR (Figure 54) DIESEL 2.8L LAST USED ON S/N D177B-8291 .....	Page 89
TIMING GEAR (Figure 64) DIESEL 3.1L FIRST USED ON S/N D177B-8292 .....	Page 104
TIRE & WHEEL (Figure 234) DRIVE WHEEL .....	Page 444
TIRE & WHEEL (Figure 235) STEER WHEEL .....	Page 448
TRANSMISSION COOLING (Figure 166) .....	Page 303
TRANSMISSION (Figure 157) LAST USED ON TRANSMISSION S/N T51,T52,T53,T78 .....	Page 286
TRANSMISSION (Figure 158) FIRST USED ON TRANSMISSION S/N T80M-1501, T81M-1501,T83M-1501 .....	Page 288
TYPE GS HARNESS (Figure 125) GASOLINE 2.2L .....	Page 228

---

**TABLE OF CONTENTS**

<b>DESCRIPTION</b>	<b>PAGE NO.</b>
--------------------	-----------------

**V**

VALVE ATTACHING PARTS (Figure 185) PUSH AWAY LEVERS .....	Page 338
--	----------

VALVE ATTACHING PARTS (Figure 186) DIRECT ACTING LEVERS .....	Page 340
--	----------

VALVE (Figure 188) FOUR FUNCTION .....	Page 344
---	----------

**W**

WATER PUMP (Figure 45) DIESEL 2.4L .....	Page 74
---	---------

WATER PUMP (Figure 56) DIESEL 2.8L & 3.1L .....	Page 92
--	---------

WINDOWS (Figure 241) CAB .....	Page 458
-----------------------------------	----------



## This image shows a single sheet of white paper with horizontal black ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

## HOW TO USE THE ILLUSTRATED PARTS MANUAL

This parts manual describes and illustrates assemblies, subassemblies, and detail parts needed for service replacement.

The different constructions are indicated by keys, symbols and footnotes.

**HYSTER**  
SERIAL CODE D177-U.S.

3 → **DESCRIPTION** → **TABLE OF CONTENTS** → **PAGE NO.**

STEERING CONTROL UNIT (Figure 173)  
LAST USED ON S/N PENDING PER ECN 59650-27 ..... Page 316

STEERING CONTROL UNIT (Figure 173)  
LAST USED ON S/N PENDING PER ECN 59650-27 ..... Page 316

ACCOES  
CAI

AIR FIL  
GA

AIR FIL

**HYSTER**  
SERIAL CODE D177

**NUMERICAL INDEX**

PART NO	PAGE NO	REF NO	PART NO	PAGE NO	REF NO	PART NO	PAGE NO	REF NO	PART NO	PAGE NO	REF NO	PART NO	PAGE NO	REF NO
126	171	14	14386	209	39	143	43	303	15	16187	213	30	67	79
142	175	17				8	97	15223	367	9	203	67	79	71
						31	15225	305	29	16182	135	2	2	2
						35	15227	305	39	18374	59	31	37	28
						14	15236	327	14	18480	333	28		
						13		351	3					
						0		352	3					
						1		381	3					
						2								

**HYSTER**  
SERIAL CODE D177-U.S.

1 → **ILLUSTRATED CONTENTS**

9 10 11 6 4 12 5 7

2

**REF SECTION**

1	Frame
2	Engine
3	Fuel System
4	Electrical System
5	Transmission
6	Steering System
7	Brake System
8	Hydraulic System
9	Two Stage Limited
10	Three Stage Full F
11	Two Stage Full Fre
12	Optional
13	Numerical Index

©1997 HYSTER COMPANY

Page 441  
SERIAL CODE D177-U.S.

**HYSTER**

**CARRIAGE (Figure 233)**  
**TWO STAGE FFL**  
**SIX ROLLER**  
LAST USED ON S/N PENDING PER ECN 98765

9

KEY:  
A: H45-85XMM  
B: H60-65XMM

**REF PART NO. NAME OF PART QTY**

REF	PART NO.	NAME OF PART	QTY
a		Carriage Assy	1
1	1345239	Carriage	1
1	1345240	Carriage	1
1	1345264	Shaft	1
2	1345218	Load Roller	6
2	1395172	Load Roller ("A" Standard)	4
2	1345219	Load Roller ("B" 0.76 mm)	6
2	1345220	Load Roller ("C" 1.52 mm)	6
3	12961	Snap Ring	6
4	1345263	Shim	6

ARAR

**REF PART NO. NAME OF PART QTY**

REF	PART NO.	NAME OF PART	QTY
5	366116	Spacer	2
6	1369345	Chain Anchor	2
6	1369344	Chain Anchor	2
7	317735	Pin	2
8	131358	Snap Ring	2
9	323161	Pin	4
10	15200	Cotter Pin	2

a Table Above  
b Last Used On S/N Pending ECN 72449  
c First Used On S/N Pending ECN 72449

©1997 HYSTER COMPANY

See Service Manual  
for service procedures

10/20/1997

---

## HOW TO FIND THE DESIRED PART NUMBER

### WHEN THE PART NUMBER AND THE NEXT HIGHER ASSEMBLY IS NOT KNOWN:

1. Determine the function and application of the part required. Turn to the illustrated index page immediately behind the front cover. Choose the general area of reference most likely to include the part.
2. Find the page number for the reference number you choose and turn to that page. Use the division index to determine the assembly which would normally contain the part required. Then locate the part on the assembly breakdown page.

### WHEN THE PART NUMBER IS NOT KNOWN AND THE NEXT HIGHER ASSEMBLY IS KNOWN:

3. Determine the assembly the required part is used on. Turn to the Master Index immediately following the Illustrated Index.
4. Locate the assembly the required part is used on and turn to the page indicated for that assembly. Then locate the part on the assembly breakdown page.

### WHEN THE PART NUMBER IS KNOWN:

5. Use the numerical index at the back of the manual to find the part number. Turn to the figure listed and locate the part as indicated by the reference number.

### GENERAL:

The assembly breakdowns include part numbers, description, quantities required, keys and footnotes to help in selecting the correct parts.

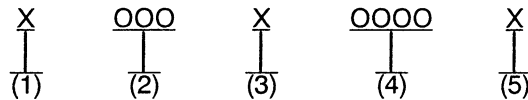
6. Keys are used to show effective serial numbers for two or more similar assemblies, RH and LH assembly parts, etc. Select the appropriate key, "A", "B", "C" or "D" and the corresponding quantity column to find the required parts.
7. Indented descriptions under "Name of Part" are used to indicate assemblies and sub-parts of assemblies. In the example, *LOAD ROLLER* (Item 7) is a subpart of the major assembly *CARRIAGE*.
8. Quantities shown are for one assembly. The quantities of the subpart *LOAD ROLLER* are indicated as six and six. This means six per *CARRIAGE* assembly.
9. Engineering change notice (ECN) numbers for pending serial numbers are shown to allow for the inclusion of the most current parts information. Contact your local dealer for Hyster lift trucks for serial number information listed by ECN number.
10. Additional fork lengths are available. Contact your dealer for Hyster lift trucks.

### ORDERING PARTS:

When ordering replacement parts, give the unit serial number, part number, name of part and quantity required.

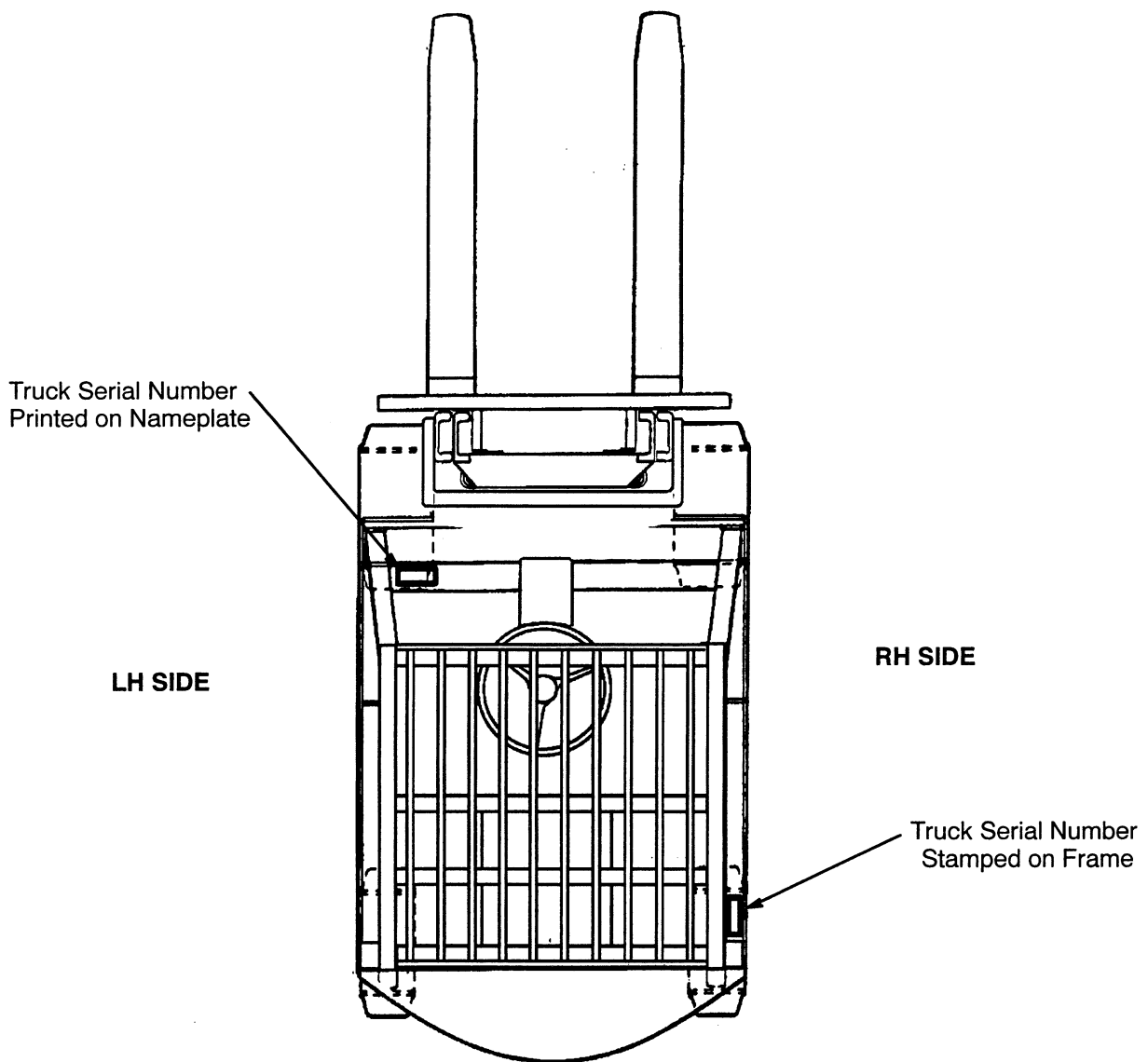
For any further information on parts, service, or ordering, consult your local dealer for Hyster lift trucks.

## IDENTIFICATION OF TRUCK SERIAL NUMBERS



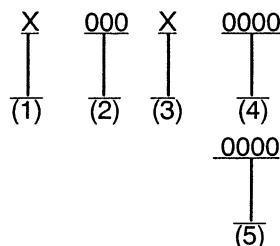
- (1) & (2) The first letter and three numbers indicate the truck model code.
- (3) The second letter indicates the plant of manufacture.
- (4) The four or five digit number series indicates the serial number of the truck.
- (5) The final letter indicates the year of manufacture starting with "A" in 1957 and 1980. The letters "I", "O", and "Q" will not be used.

For pending serial numbers contact your local dealer for Hyster lift trucks.



Parts referred to in this book as right or left hand parts are in accordance with the illustration above.

## IDENTIFICATION OF MAST SERIAL NUMBERS



(1) & (2) The first letter and number indicates the mast model code.

(3) The second letter indicates the plant of manufacture.

(4) The four or five digit number series indicates the serial number of the mast.

(5) Lift Height in Millimeters stamped just below the serial number

Mast Group Identification consists of mast unit code (1) & (2) plus lift height (5).

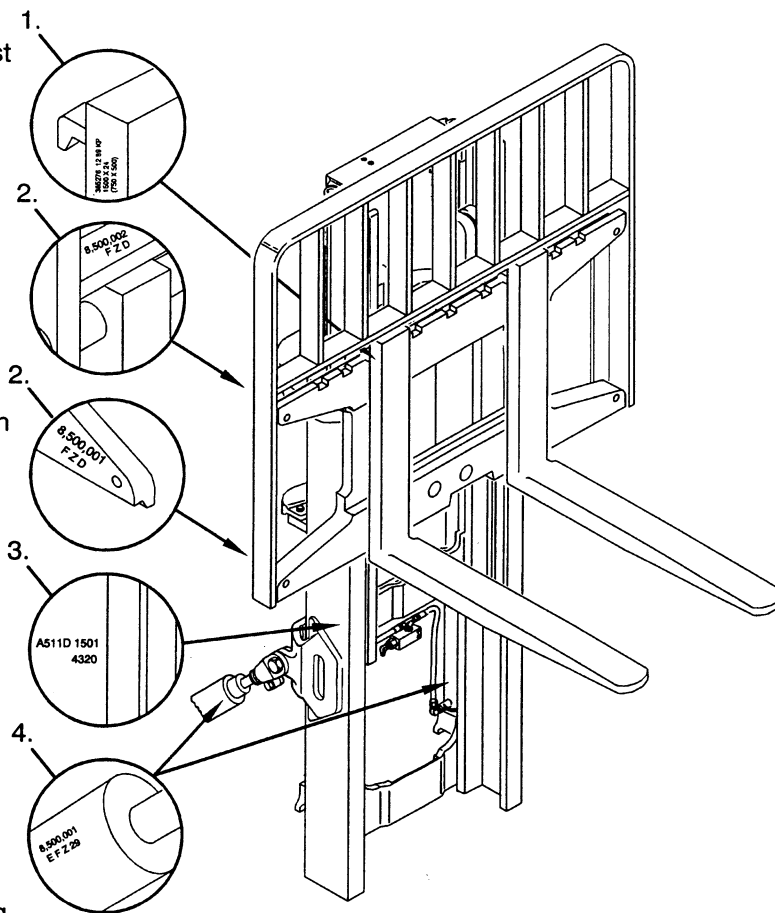
For pending serial numbers contact your local dealer for Hyster lift trucks.

### LIFT EQUIPMENT IDENTIFICATION

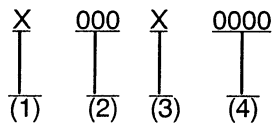
1. Fork part number, capacity rating, plant code letter and date of manufacture are stamped approximately six inches below the top of most forks.
2. The carriage group number is stamped on the right hand side of the top crossmember (pin type) or on the back of the right hand end of the bottom crossmember (hook type). A date code has two letters in line with or below the carriage group number.
3. The mast identification number has a model code, a letter indicating the plant of manufacture, and a serial number. Underneath the serial number is a four digit number that indicates the total lift height for the mast in millimeters.
4. Tilt and lift cylinder group numbers are stamped on the cylinder shell.

Always refer to the group, serial or part number when ordering service parts.

Modification of masts and carriages by SPED (Special Products Engineering Department) are identified by a model prefix code beginning with the letter "S". Contact your dealer for Hyster lift trucks for information on these assemblies.

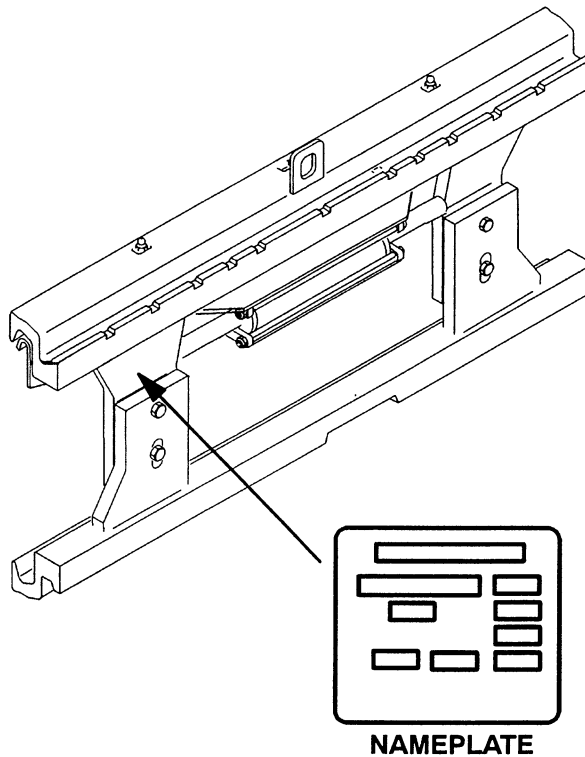


## IDENTIFICATION OF ATTACHMENT AND SIDE-SHIFT CARRIAGE SERIAL NUMBERS



- (1) & (2) The first letter and three numbers indicate the attachment model code.
- (3) The second letter indicates the plant of manufacture.
- (4) The four or five digit number series indicates the serial number.

For pending serial numbers contact your local dealer for Hyster lift trucks.



Side-Shift Carriages and Attachments have nameplates. Use the serial number found on the nameplate to identify the attachment.

Always refer to the group, serial or part number when ordering service parts.

Modifications of attachments and side-shift carriages by SPED (Special Products Engineering Department) are identified by a model prefix code beginning with the letter "S". Contact your dealer for Hyster lift trucks for information on these assemblies.

## This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

## ABBREVIATIONS QUICK REFERENCE SHEET

Listed Below Are Abbreviations Used In Parts Manuals To Denote The Following Expressions:

2-STG	Two Stage Mast
3-STG	Three Stage Mast
4-STG	Four Stage Mast
Amp	Amperes
AR	As Required
BCS	Box Car Special
BWI	Brush Wear Indicator
CE	Commutator End
CRE	Corrosive Environment
dbA	Decibel "A" Scale
DE	Drive End
EC or ECH	Empty Container Handler Europe Empty Container Handler U.S.
EC-3 ECH-3	Empty Container Handler-3 High Stacking
EC-4 ECH-4	Empty Container Handler-4 High Stacking
EC-5 ECH-5	Empty Container Handler-5 High Stacking
EC-6 ECH-6	Empty Container Handler-6 High Stacking
EC-7 ECH-7	Empty Container Handler-7 High Stacking
ECM	Electronic Control Module
ECN	Engineering Change Notice
EEPROM	Electrically Erasable Programmable Read Only Memory
EPROM	Electrically Programmable Read Only Memory
FFL	Full Free Lift
FLT	Fork Lift Truck
FRE	Freezer Environment
in.	inches
LFL	Limited Free Lift
LPG	Liquified Petroleum Gas
MAP	Manifold Absolute Pressure
mm	millimeters
MSTS	Microprocessor Spark Timing System

NC	Normally Closed
NDE	Not Drive End (Commutator End)
NFL	No Free Lift
NI	Not Illustrated
NO	Normally Open
NPT	National Pipe Threads
NS	Neutral Start
O/S	Oversize
OC	Oil Clutch Transmission
PS	Powershift Transmission
PTO	Power Take Off
RPM	Revolutions per Minute
S/N	Serial Number
SFL	Semi-Free Lift
TMM	Truck Management Module
Type D	UL Type D, Diesel-Powered Safety Rating
Type DS	UL Type DS, Diesel-Powered Safety Rating
Type E	UL Type E, Battery Powered Safety Rating
Type EE	UL Type EE, Battery-Powered Safety Rating
Type ES	UL Type ES, Battery-Powered Safety Rating
Type G	UL Type G, Gasoline-Powered Safety Rating
Type GS	UL Type GS, Gasoline-Powered Safety Rating
Type LP	UL Type LP, LP Gas-Powered Safety Rating
Type LPS	UL Type LPS, LP Gas-Powered Safety Rating
U/S	Undersize
UL	Underwriters Laboratory
UK	United Kingdom
U.S.	United States
V	Volts
Xmsn	Transmission



## PUBLICATIONS

Every new lift truck is provided with at least three publications. These publications are the PARTS MANUAL, the OPERATING MANUAL, and the section of the SERVICE MANUAL called Periodic Maintenance.

The OPERATING MANUAL must always be available on every lift truck. This manual has information that the operator must know for inspection and operation of the lift truck. The section Periodic Maintenance has a recommended schedule of service intervals and the procedures for servicing the lift truck.

These manuals, other publications and programs are available from your Dealer for Hyster Lift Trucks to help you operate and maintain your lift truck professionally. See the list that follows for reference to items for lift trucks in this PARTS MANUAL.

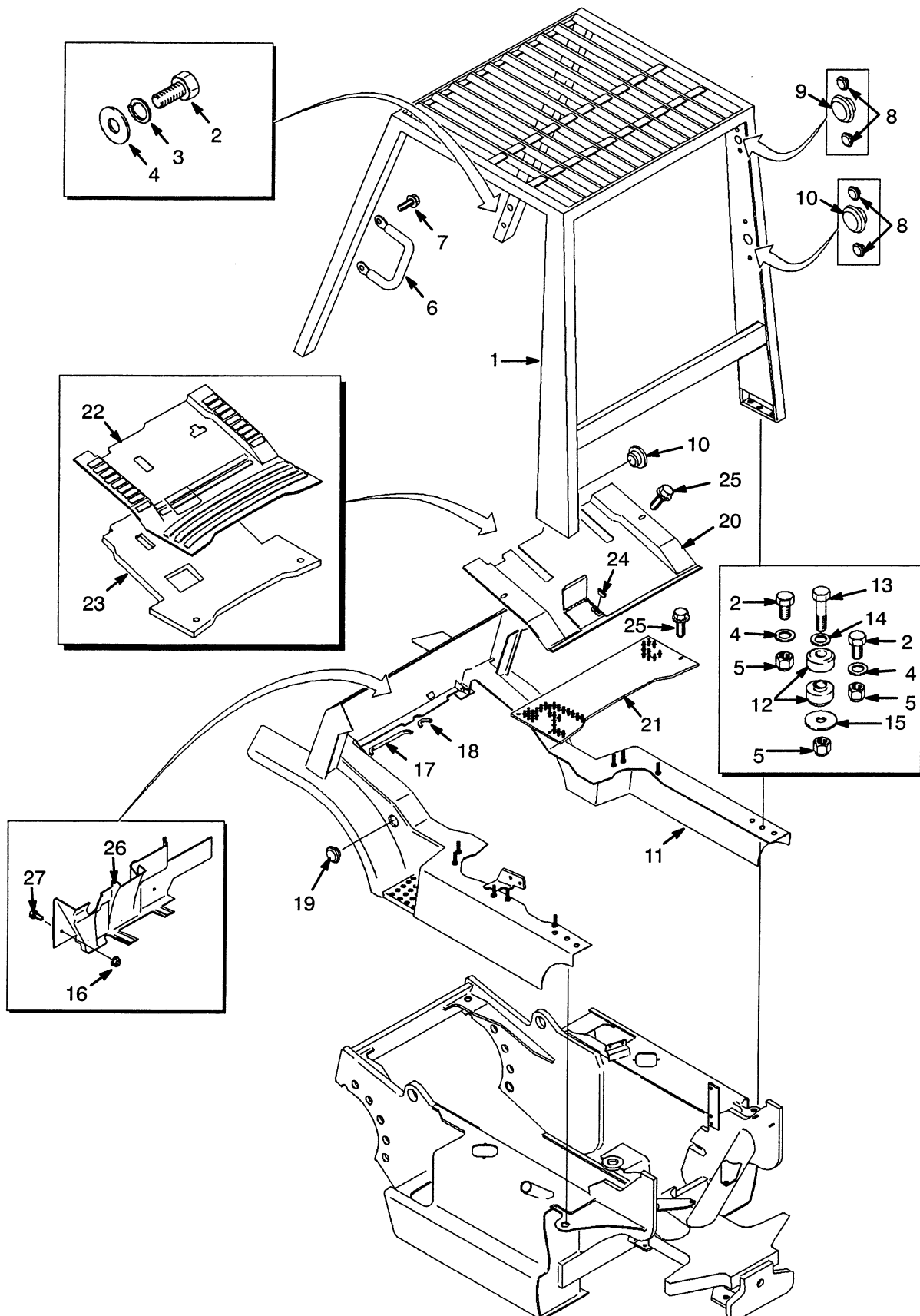
Operating Manual	Hyster Part Number
English .....	897740
Service Manual (complete) .....	897469
Parts Manual .....	897468

---

**FRAME**

COUNTERWEIGHT (Figure 3) .....	Page 6
FRAME AND FLOORPLATES (Figure 1) .....	Page 2
HOOD (Figure 2) .....	Page 4
LABELS .....	Page 10
SEAT (Figure 4) .....	Page 8

## FRAME AND FLOORPLATES (Figure 1)

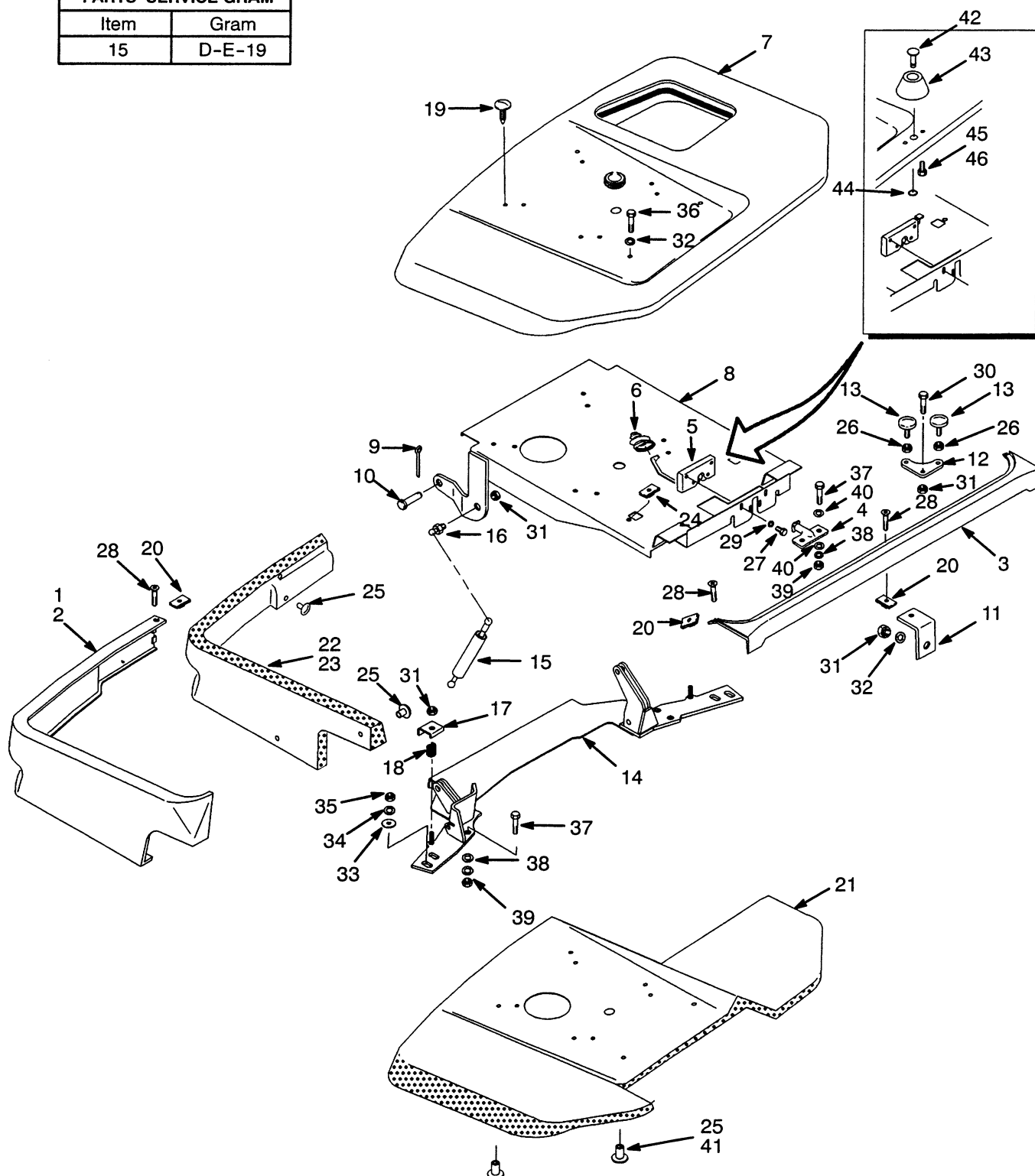


**FRAME AND FLOORPLATES**

REF	PART NO.	NAME OF PART	QTY	REF	PART NO.	NAME OF PART	QTY
1	1337179	Overhead Guard .....	1	20	1339777	Floorplate (Front) .....	1
2	292528	Capscrew .....	8	21	1339773	Floorplate (Rear) .....	1
3	292683	Lockwasher .....	4	22	1354090	Floormat .....	1
4	296423	Washer .....	8	23 <sup>h</sup>	1354109	Barrier .....	1
5	300937	Nut .....	8	23 <sup>fg</sup>	1390611	Barrier .....	1
6	1343647	Handle .....	1	24	1339776	Magnet .....	1
7	329067	Screw .....	2	25	1356100	Capscrew .....	4
8	1363916	Plug .....	12	26 <sup>c</sup>	1339719	Cover .....	1
9	1363917	Plug .....	5	26 <sup>d</sup>	1390614	Cover .....	1
10	1363918	Plug .....	2	26 <sup>e</sup>	1390607	Cover .....	1
11	1360718	Operator Module .....	1	27	292501	Capscrew .....	2
12 <sup>a</sup>	1352578	Mount .....	4				
12 <sup>b</sup>	1383559	Mount .....	4	<sup>a</sup>	Last Used On D177B-26743		
13 <sup>a</sup>	292535	Capscrew .....	4	<sup>b</sup>	First Used On D177B-26744		
13 <sup>b</sup>	292536	Capscrew .....	4	<sup>c</sup>	Last Used On D177B-32699		
14	320161	Washer (Rear Only) .....	2	<sup>d</sup>	Used On D177B-32700 Thru S/N D177B-36715		
14 <sup>b</sup>	320161	Washer (Front Only) .....	2	<sup>e</sup>	First Used On S/N D177B-36716		
15	300939	Washer .....	4	<sup>f</sup>	Diesel		
16	1359600	Nut .....	2	<sup>g</sup>	First Used On S/N D177B-38774		
17	1347160	Trim .....	1	<sup>h</sup>	Last Used On S/N D177B-38775		
18	1347161	Trim .....	1				
19	1350321	Plug .....	2				

## HOOD (Figure 2)

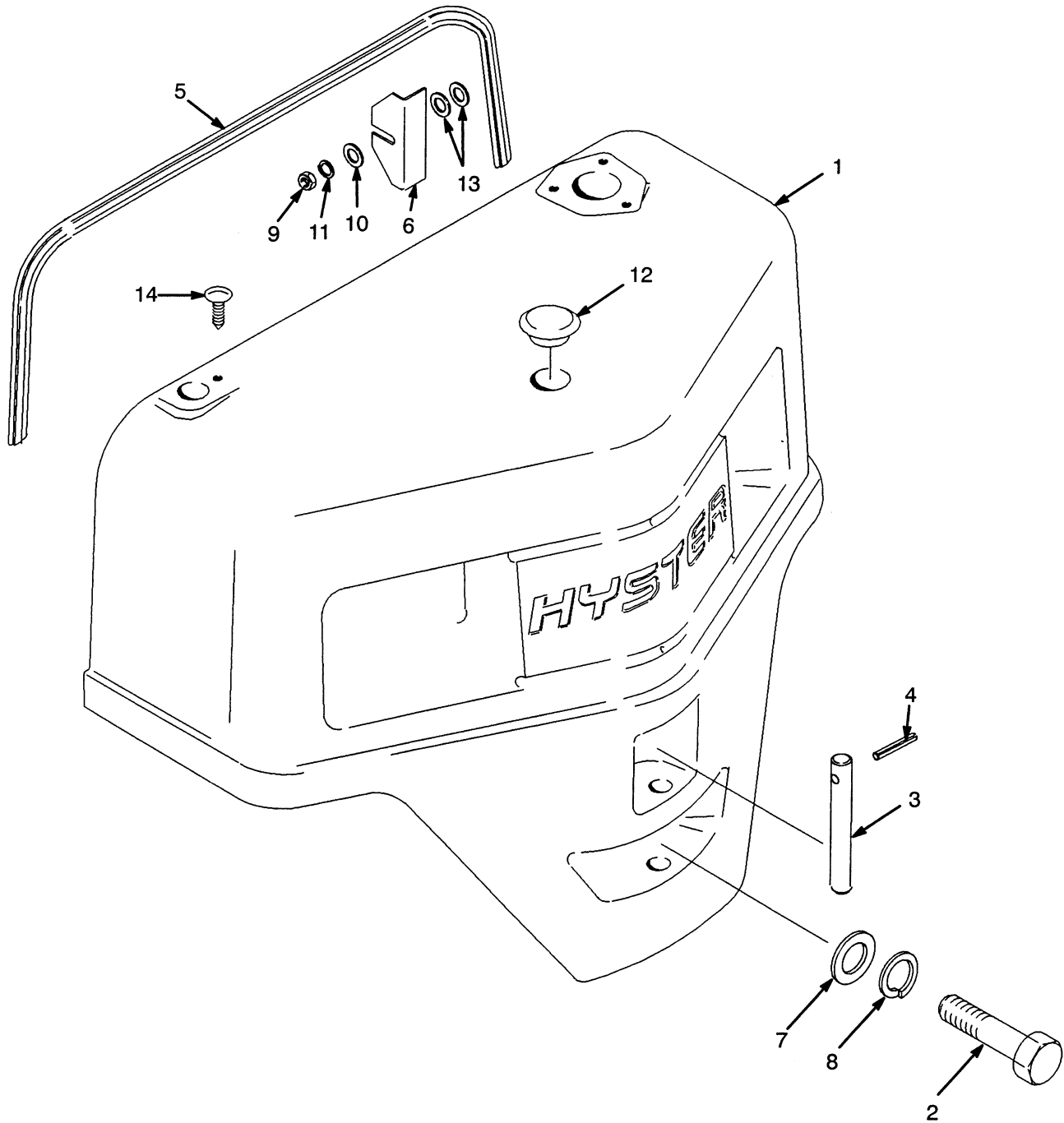
PARTS-SERVICE GRAM	
Item	Gram
15	D-E-19



**HOOD**

REF	PART NO.	NAME OF PART	QTY	REF	PART NO.	NAME OF PART	QTY
1	<b>a</b> 1343458	Lower Panel (LH) .....	1	29	320156	Washer .....	4
1	<b>b</b> 1347096	Lower Panel (LH) .....	1	30	136749	Capscrew .....	4
2	1343473	Lower Panel (RH) .....	1	31	302400	Nut .....	13
3	1332670	Panel .....	1	32	320158	Washer .....	3
4	1337148	Striker .....	1	33	332755	Washer .....	4
5	<b>f</b> 1337181	Latch .....	1	34	292681	Lockwasher .....	4
5	<b>g</b> 1386216	Latch .....	1	35	239503	Nut .....	4
6	1339786	Boot .....	1	36	1354380	Capscrew .....	2
7	<b>f</b> 1332667	Hood .....	1	37	292515	Capscrew .....	6
7	<b>g</b> 1386217	Hood .....	1	38	292682	Lockwasher .....	6
8	<b>d</b> 1347175	Seat Pan .....	1	39	136692	Nut .....	6
8	<b>e</b> 1375186	Seat Pan .....	1	40	320159	Washer .....	4
8	<b>k</b> 1376672	Seat Pan .....	1	41	<b>c</b> 1382306	Washer (Nylon) .....	2
9	1362714	Pin .....	2	41	<b>g</b> 15931	Washer .....	2
10	237947	Rod End Pin .....	2	42	<b>g</b> 1386221	Button .....	2
11	1351008	Mounting Plate .....	1	43	<b>g</b> 1386220	Guard .....	2
12	1347110	Plate .....	2	44	<b>g</b> 12898	E-Ring .....	2
13	1347088	Stop Screw .....	4	43	1386220	Guard .....	1
14	1339694	Crossmember .....	1	44	12898	E-Ring .....	1
15	1377992	Gas Spring .....	2	45	227155	Screw .....	2
16	1350285	Ball Stud .....	4	46	15931	Washer .....	2
17	1347018	Clamp .....	6				
18	1350241	Spring .....	6	<b>a</b>	Gasoline And Diesel		
19	1347045	Fastener .....	4	<b>b</b>	LPG		
20	1350215	Nut .....	4	<b>c</b>	First Used On S/N D177B-18350		
21	1352124	Liner .....	1	<b>d</b>	Last Used On S/N D177B-16153		
22	<b>np</b> 1352125	Liner, RH .....	1	<b>e</b>	Used On S/N D177B-16154 Thru D177B-18283		
23	<b>np</b> 1352126	Liner, LH .....	1	<b>f</b>	Last Used On S/N D177B-26598		
24	1350282	Nut .....	2	<b>g</b>	First Used On S/N D177B-26599		
25	<b>np</b> 280644	Button .....	12	<b>k</b>	First Used On S/N D177B-18284		
26	15001	Nut .....	4	<b>n</b>	Diesel		
27	199563	Capscrew .....	4	<b>p</b>	First Used On S/N D177B-38775		
28	1339793	Screw .....	4				

## COUNTERWEIGHT (Figure 3)



**COUNTERWEIGHT**

REF NO.	NAME OF PART	TRUCK MODEL					QTY
		H45XM	H50XM	H55XM	H60XM	H65XM	
1	Counterweight (1623mm)	1351014	1335752	1351016	1335754		1
	Counterweight (1700mm)					1335756	1
2	Capscrew (1623mm)	292607	292612	292613	292616		1
	Capscrew (1700mm)					292613	1

REF	PART NO.	NAME OF PART	QTY
1	<b>a</b>	Counterweight	1
2	<b>a</b>	Capscrew	1
3	1335761	Tow Pin	1
4	302492	Pin	1
5	1335762	Seal	1
6	1335763	Shim	AR
7	1375214	Washer	1
8	292689	Washer	1
9	239503	Nut	4

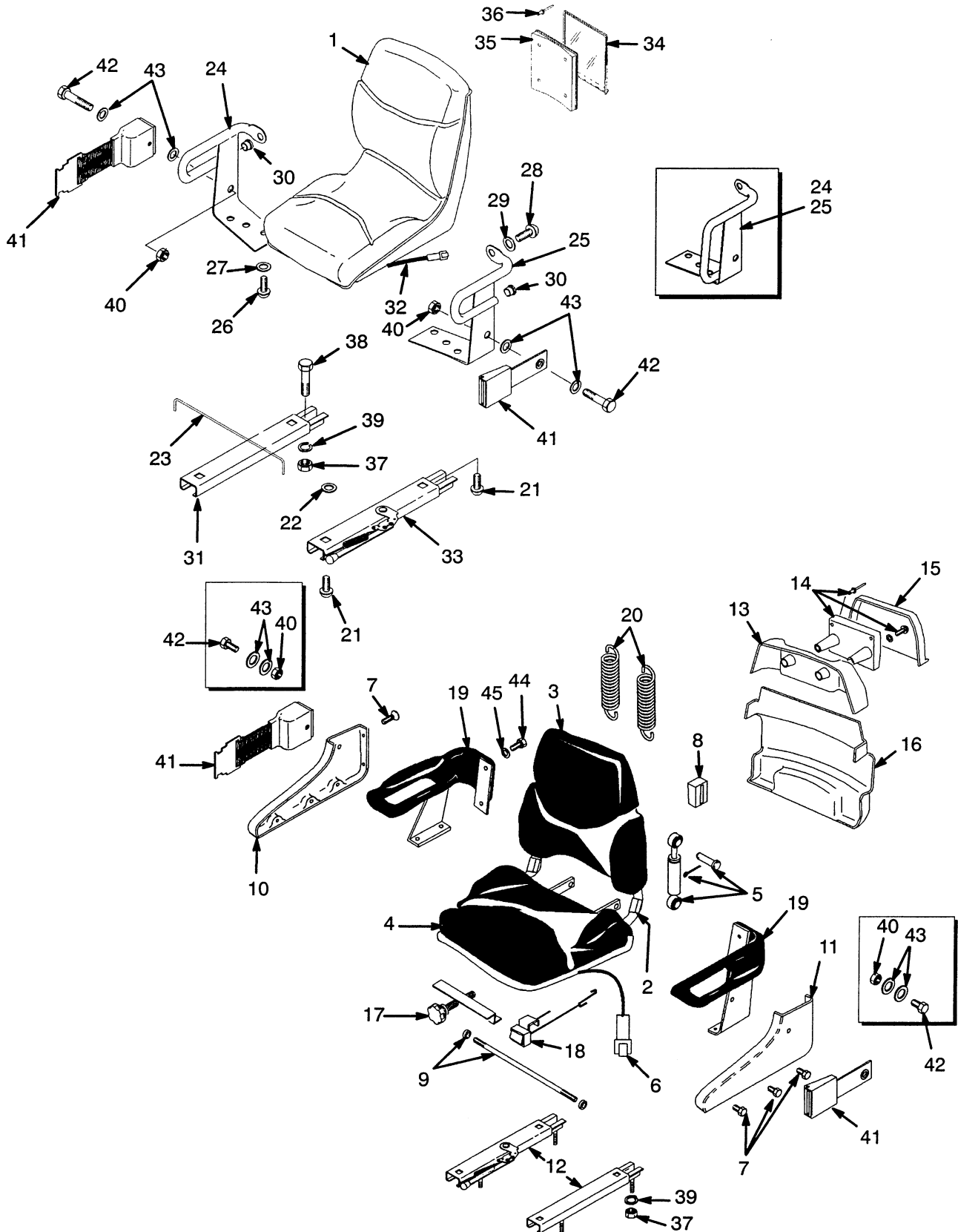
REF	PART NO.	NAME OF PART	QTY
10	320158	Washer	4
11	292681	Lockwasher	4
12	1350231	Plug	1
12	<b>b</b>	1350231 Plug	2
13	320159	Washer	8
14	<b>b</b>	1347045 Fastener	1

**a** ☐ Table Above

**b** Gasoline And Diesel



## SEAT (Figure 4)



## SEAT

### KEY:

A: Semi-Suspension

B: Standard

REF	PART NO.	NAME OF PART	QTY		REF	PART NO.	NAME OF PART	QTY	
			A	B				A	B
1	1351431	Seat (Vinyl) ..	1		22	221733	Washer ..	2	
1	1351432	Seat (Fabric) ..	1		23	1300107	Rod ..	1	
2	1376675	Semi-Suspension Seat (Vinyl) ..	1		24 a	1306585	Restraint (RH) ..	1	
2	1376676	Semi-Suspension Seat (Fabric) ..	1		24 b	364807	Restraint (RH) ..	1	
3	1382111	Back Cushion (Vinyl) ..	1		25 a	1306588	Restraint (LH) ..	1	
3	1382113	Back Cushion (Fabric) ..	1		25 b	364808	Restraint (LH) ..	1	
4	1382112	Seat Cushion (Vinyl) ..	1		26	18727	Capscrew ..	4	
4	1382114	Seat Cushion (Fabric) ..	1		27	18515	Washer ..	4	
5	1362049	Shock Absorber ..	1		28	379197	Capscrew ..	2	
6	1354140	Switch Assembly ..	1		29	379198	Washer ..	2	
6	1330409	Connector ..	1		30	364854	Plug ..	2	
6	1330414	Lock ..	1		31	383116	Rail, RH ..	1	
6	1330433	Pin ..	2		32	1354140	Switch ..	1	
7	1362065	Cover Hardware Kit ..	4		33	335553	Rail, LH ..	1	
8	1362052	Slider Block ..	2		34	335991	Information Cover ..	1	
9	1362053	Shaft Kit ..	1		35	335988	Information Base ..	1	
10	1392496	Cover (RH) ..	1		36	222029	Rivet ..	4	
11	1392495	Cover (LH) ..	1		37	145639	Locknut ..	4	4
12	1459173	Seat Rail ..	1		38	18498	Capscrew (Front) ..	2	
13	1374188	Cover ..	1		38	18496	Capscrew (Rear) ..	2	
14	1362058	Holder ..	1		39	15175	Washer ..	4	4
15	1374190	Cover ..	1		40	379698	Nut ..	2	2
16	1360872	Rear Cover ..	1		41 a	1337800	Seat Belt ..	1	1
17	1362061	Knob Kit ..	1		41 b	1374750	Seat Belt ..	1	1
18	1362062	Tape Kit ..	1		42	379199	Capscrew ..	2	2
19	1362063	Hip Restraint (LH) ..	1		43	379697	Washer ..	4	4
19	1362064	Hip Restraint (RH) ..	1		44	1367148	Bolt ..	8	
20	1367137	Spring Kit ..	1		45	1367154	Washer ..	8	
21	364914	Capscrew ..	4		a Last Used On S/N D177B-18419				
					b First Used On S/N D177B-18420				

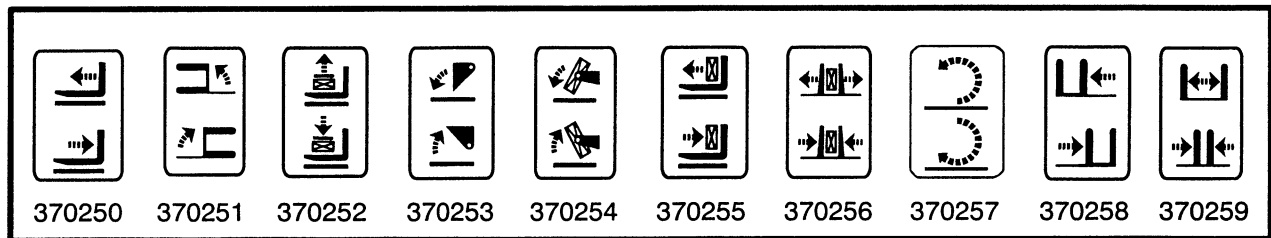
The diagram illustrates the placement of various safety and identification labels on a Hyster forklift. The main view shows the forklift from the side, with callouts 1 through 26 pointing to specific locations. A detailed inset at the bottom shows the engine compartment with callouts 4, 17, and 18.

**Labels and Callouts:**

- 1:** Two warning labels showing forklift operation hazards.
- 2:** "HYSTER" brand name label.
- 3:** Four directional arrow labels (up, down, left, right).
- 4:** Label for the engine compartment: "THIS COOLING SYSTEM IS PROTECTED WITH CORROSION INHIBITED ANTIFREEZE TO -30°F (-35°C) SEE MANUAL".
- 5:** "HYSTER" brand name label.
- 6:** Four directional arrow labels (up, down, left, right).
- 7:** "Keep Hands Clear of Mast!" warning label.
- 8:** "45" capacity label.
- 9:** "WARNING" label with a forklift icon.
- 10:** "EFI" (Electronic Fuel Injection) label.
- 11:** "CAUTION" label with a forklift icon.
- 12:** "GS", "LPS", and "DS" (Gas, LP Gas, Diesel) fuel type labels.
- 13:** "WARNING" label with a forklift icon.
- 14:** Large multi-line text label for operator instructions.
- 15:** "HYSTER" brand name label on the front.
- 16:** "WARNING" label: "APPLY HANDBRAKE before leaving truck".
- 17:** "WARNING" label with a forklift icon.
- 18:** "WARNING" label: "INSTALL COVER BEFORE OPERATING TRUCK".
- 19:** "WARNING" label: "Flammable LP GAS".
- 20:** "WARNING" label with a forklift icon.
- 21:** "WARNING" label with a forklift icon.
- 22:** Two screws for mounting labels.
- 23:** "WARNING" label: "DO NOT REMOVE THIS GUARD".
- 24:** "WARNING" label with a forklift icon.
- 25:** "WARNING" label with a forklift icon.
- 26:** "WARNING" label with a forklift icon.

## LABELS

REF	PART NO.	NAME OF PART	QTY	REF	PART NO.	NAME OF PART	QTY
1	d	1338178 Label-Mast Warning .....	2	14	d	1336605 Label-Operator Warning .....	1
2	d	1339672 Label-Hyster .....	2	15	d	1374549 Label-Radial Tire Warning .....	1
3	a	..... Label-Auxiliary Function .....	1	16	d	2309799 Label-Park Brake .....	1
4	d	1354165 Label-Antifreeze .....	1	17	d	1345939 Label-Fan .....	2
5	d	1339674 Label-Hyster .....	2	18	d	1325271 Label-Fan .....	1
6	d	1356137 Label-Lift & Tilt .....	1	19	d	1354171 Label-Flammable Lp Gas .....	1
7	d	1330919 Label-Mast Warning .....	1	20	d	1330920 Label-No Riders .....	2
8		1354153 Label-45 .....	2	21	d	329029 Label-LPG Tank .....	1
8		1354155 Label-50 .....	2	22		170658 Rivet .....	AR
8		1354157 Label-55 .....	2	23		1335147 Label-Overhead Guard .....	1
8		1354159 Label-60 .....	2	24		389688 Cover .....	1
8		1354343 Label-65 .....	2	25	c	..... Label-Capacity Plate .....	1
9	d	1335129 Label-Pinch Point .....	2	26		864740 Label-Gas Fuel Change-1/4 Full	1
10	bd	1345998 Label-EFI .....	2				
11	d	2034459 Label-Ether Caution .....	1	a		Chart Below	
12		154065 Label-GS .....	2	b		Gasoline Trucks Only	
12		154066 Label-LPS .....	2	c		Contact Your Local Dealer For Hyster Lift Trucks	
12		154067 Label-DS .....	2	d		included In Service Kit 996414	
13	d	1330917 Label-Tipover Warning .....	2				



## This image shows a blank sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

---

**ENGINE**

CAMSHAFT AND OIL PAN (Figure 32) GASOLINE AND LPG 3.0L .....	Page 54
CAMSHAFT AND TIMING GEAR (Figure 23) GASOLINE AND LPG 2.2L .....	Page 40
CAMSHAFT AND VALVES (Figure 13) GASOLINE AND LPG 2.0L .....	Page 27
CAMSHAFT AND VALVES (Figure 41) DIESEL 2.4L .....	Page 69
CAMSHAFT AND VALVES (Figure 51) DIESEL 2.8L LAST USED ON S/N D177B-8291 .....	Page 84
CAMSHAFT AND VALVES (Figure 61) DIESEL 3.1L FIRST USED ON S/N D177B-8292 .....	Page 100
COOLING (Figure 19) GASOLINE AND LPG 2.0L .....	Page 33
COOLING (Figure 27) GASOLINE AND LPG 2.2L .....	Page 45
COOLING (Figure 31) GASOLINE AND LPG 3.0L .....	Page 52
CRANKCASE AND OIL PAN (Figure 40) DIESEL 2.4L .....	Page 68
CRANKCASE AND OIL PAN (Figure 53) DIESEL 2.8L LAST USED ON S/N D177B-8291 .....	Page 88
CRANKCASE AND OIL PAN (Figure 63) DIESEL 3.1L FIRST USED ON S/N D177B-8292 .....	Page 103
CRANKSHAFT AND PISTON (Figure 12) GASOLINE AND LPG 2.0L .....	Page 26

---

**ENGINE (CONTINUED)**

CRANKSHAFT AND PISTON (Figure 28) GASOLINE AND LPG 3.0L .....	Page 46
CRANKSHAFT AND PISTON (Figure 42) DIESEL 2.4L .....	Page 70
CRANKSHAFT AND PISTON (Figure 52) DIESEL 2.8L LAST USED ON S/N D177B-8291 .....	Page 86
CRANKSHAFT AND PISTON (Figure 62) DIESEL 3.1L FIRST USED ON S/N D177B-8292 .....	Page 102
CYLINDER BLOCK (Figure 10) GASOLINE AND LPG 2.0L .....	Page 24
CYLINDER BLOCK (Figure 21) GASOLINE AND LPG 2.2L .....	Page 36
CYLINDER BLOCK (Figure 37) DIESEL 2.4L .....	Page 62
CYLINDER BLOCK (Figure 49) DIESEL 2.8L LAST USED ON S/N D177B-8291 .....	Page 80
CYLINDER BLOCK (Figure 59) DIESEL 3.1L FIRST USED ON S/N D177B-8292 .....	Page 96
CYLINDER HEAD (Figure 11) GASOLINE AND LPG 2.0L .....	Page 25
CYLINDER HEAD (Figure 22) GASOLINE AND LPG 2.2L .....	Page 38
CYLINDER HEAD (Figure 29) GASOLINE AND LPG 3.0L .....	Page 48

---

**ENGINE (CONTINUED)**

CYLINDER HEAD (Figure 39) DIESEL 2.4L .....	Page 66
CYLINDER HEAD (Figure 50) DIESEL 2.8L LAST USED ON S/N D177B-8291 .....	Page 82
CYLINDER HEAD (Figure 60) DIESEL 3.1L FIRST USED ON S/N D177B-8292 .....	Page 98
ELECTRICAL (Figure 17) GASOLINE AND LPG 2.0L .....	Page 31
ELECTRICAL (Figure 30) GASOLINE AND LPG 3.0L .....	Page 50
EMISSION CONTROL (Figure 38) DIESEL .....	Page 64
ENGINE MOUNT (Figure 33) DIESEL .....	Page 56
ENGINE MOUNT (Figure 5) GASOLINE AND LPG 2.0L & 2.2L .....	Page 18
ENGINE MOUNT (Figure 6) GASOLINE AND LPG 3.0L .....	Page 19
EXHAUST (Figure 34) DIESEL 2.4L .....	Page 57
EXHAUST (Figure 35) DIESEL 2.8L AND 3.1L .....	Page 58
EXHAUST (Figure 7) GASOLINE AND LPG .....	Page 20
EXHAUST (Figure 8) OVERHEAD .....	Page 21



---

**ENGINE (CONTINUED)**

FLYWHEEL (Figure 20) GASOLINE AND LPG .....	Page 34
FLYWHEEL (Figure 48) DIESEL 2.4L, 2.8L AND 3.1L .....	Page 78
FUEL AND ELECTRICAL (Figure 25) GASOLINE AND LPG 2.2L .....	Page 42
FUEL (Figure 18) GASOLINE AND LPG 2.0L .....	Page 32
LUBRICATION SYSTEM (Figure 66) DIESEL 3.1L FIRST USED ON S/N D177B-8292 .....	Page 106
MANIFOLD (Figure 15) GASOLINE AND LPG 2.0L .....	Page 29
MANIFOLD (Figure 24) GASOLINE AND LPG 2.2L .....	Page 41
MANIFOLD (Figure 44) DIESEL 2.4L .....	Page 73
MANIFOLD (Figure 55) DIESEL 2.8L LAST USED ON S/N D177B-8291 .....	Page 90
MANIFOLDS (Figure 65) DIESEL 3.1L FIRST USED ON S/N D177B-8292 .....	Page 105
OIL FILTER (Figure 46) DIESEL 2.4L .....	Page 76
OIL FILTER (Figure 57) DIESEL 2.8L AND 3.1L .....	Page 94
OIL PUMP & FILTER (Figure 16) GASOLINE AND LPG 2.0L .....	Page 30

---

**ENGINE (CONTINUED)**

OIL PUMP (Figure 26)  
GASOLINE AND LPG 2.2L ..... Page 43

OIL PUMP (Figure 47)  
DIESEL 2.4L ..... Page 77

OIL PUMP (Figure 58)  
DIESEL 2.8L AND 3.1L ..... Page 95

RADIATOR AND HOSES (Figure 36)  
DIESEL ..... Page 60

RADIATOR & HOSES (Figure 9)  
GASOLINE AND LPG ..... Page 22

TIMING GEAR COVER AND OIL PAN (Figure 14)  
GASOLINE AND LPG 2.0L ..... Page 28

TIMING GEAR (Figure 43)  
DIESEL 2.4L ..... Page 72

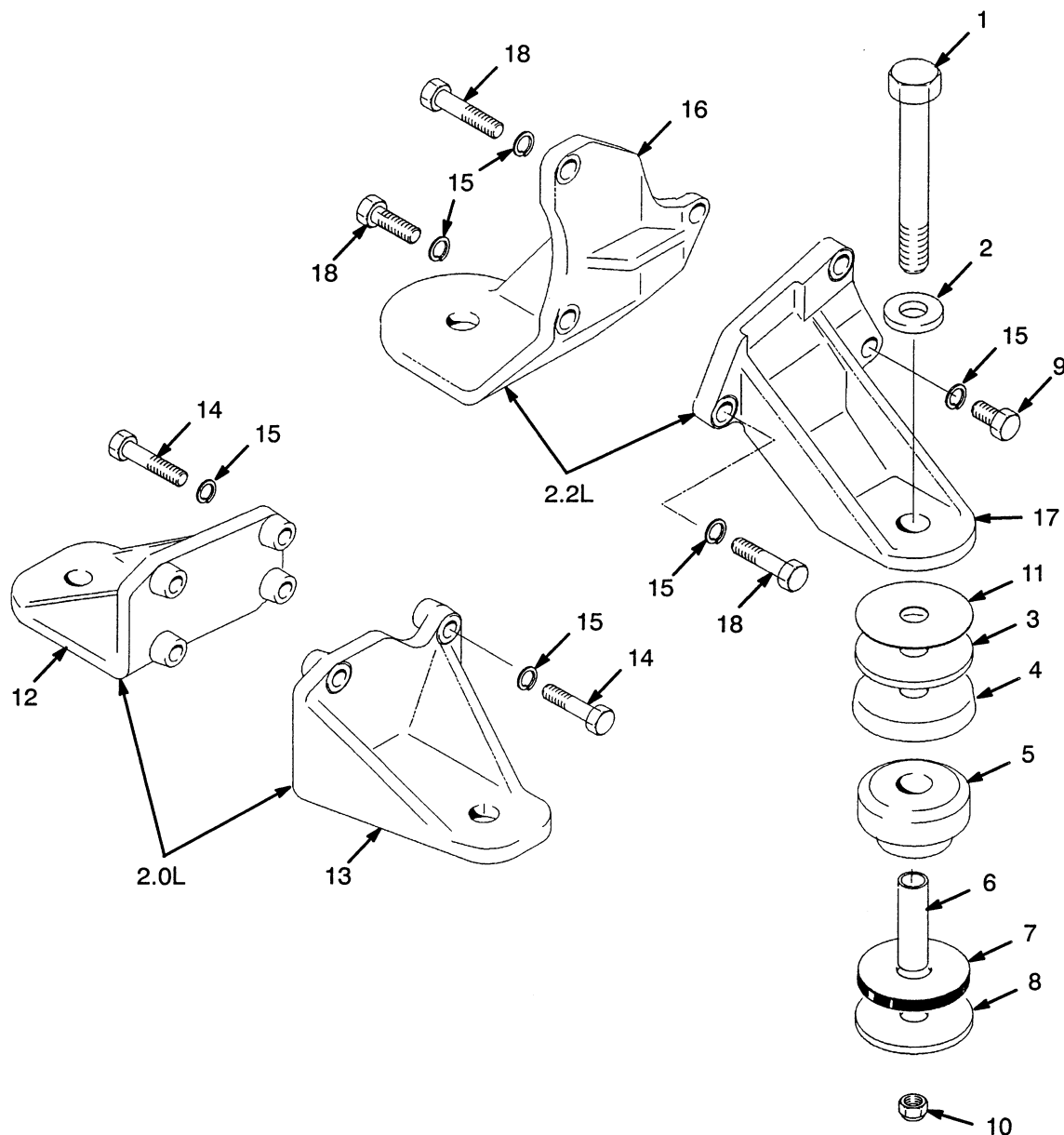
TIMING GEAR (Figure 54)  
DIESEL 2.8L  
LAST USED ON S/N D177B-8291 ..... Page 89

TIMING GEAR (Figure 64)  
DIESEL 3.1L  
FIRST USED ON S/N D177B-8292 ..... Page 104

WATER PUMP (Figure 45)  
DIESEL 2.4L ..... Page 74

WATER PUMP (Figure 56)  
DIESEL 2.8L AND 3.1L ..... Page 92

## ENGINE MOUNT (Figure 5) GASOLINE AND LPG 2.0L AND 2.2L

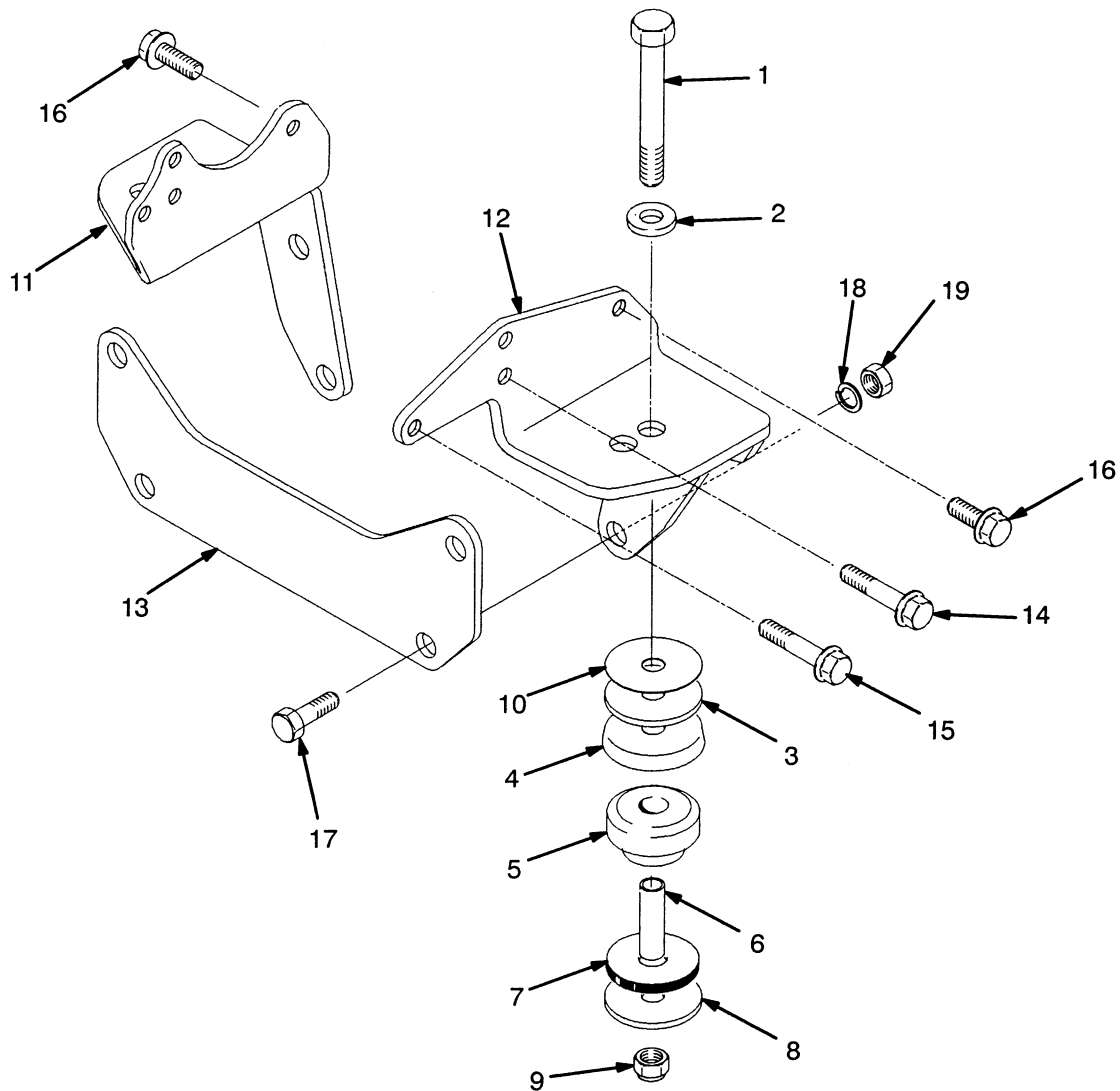


### KEY:

A: 2.0L Engine  
B: 2.2L Engine

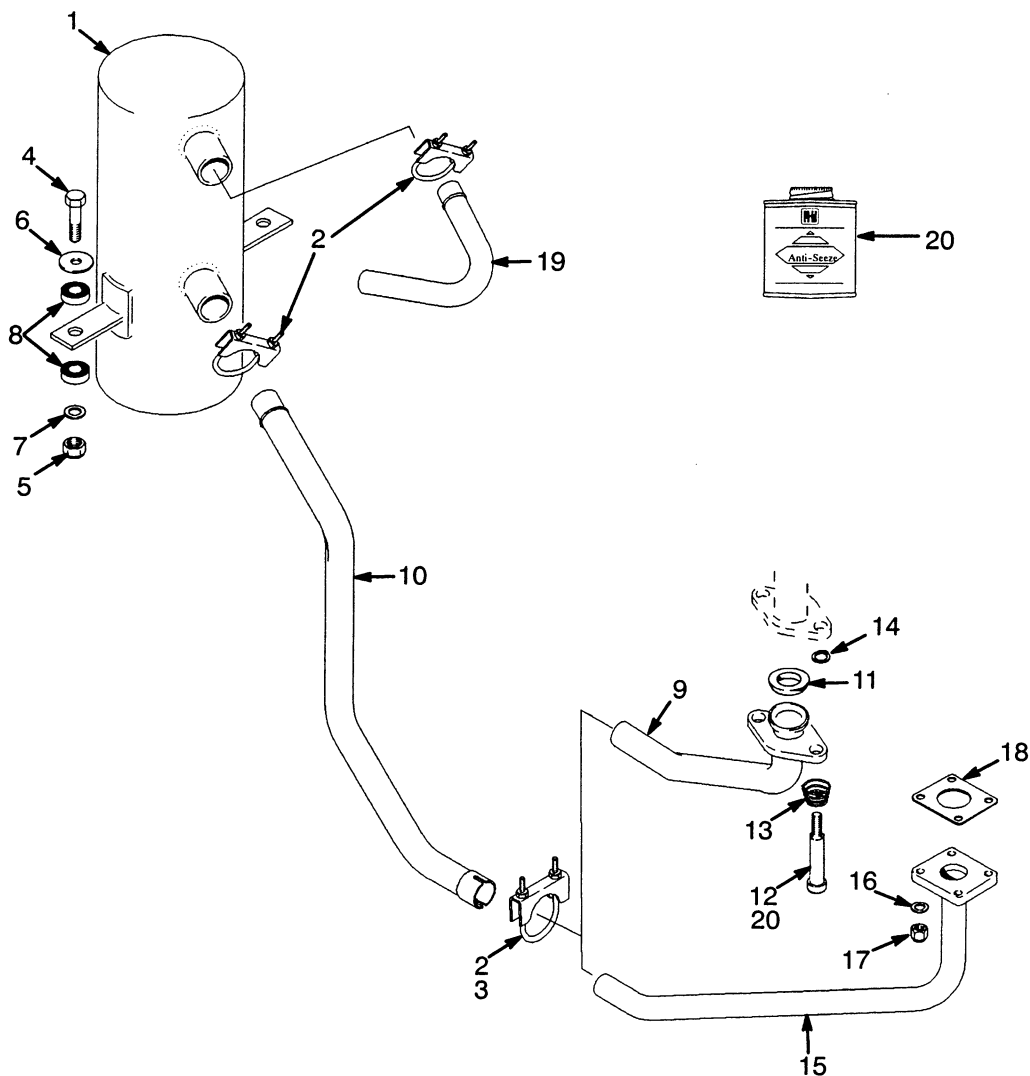
REF	PART NO.	NAME OF PART	QTY		REF	PART NO.	NAME OF PART	QTY	
			A	B				A	B
1	293658	Capscrew	2	2	10	300937	Nut	2	2
2	300932	Washer	2	2	11	1351017	Spacer	AR	AR
3	340796	Washer	2	2	12	1337014	Bracket (LH)	1	..
4	1351098	Cup	2	2	13	1337012	Bracket (RH)	1	..
5	1351096	Isolator	2	2	14	1347119	Capscrew	8	..
6	1351061	Spacer	2	2	15	292682	Lockwasher	8	6
7	1351060	Bumper	2	2	16	1335961	Bracket (LH)	..	1
8	300939	Washer	2	2	17	1335960	Bracket (RH)	..	1
9	293631	Capscrew	..	2	18	293630	Capscrew	..	4

**ENGINE MOUNT (Figure 6)**  
**GASOLINE AND LPG 3.0L**



REF	PART NO.	NAME OF PART	QTY	REF	PART NO.	NAME OF PART	QTY
1	293658	Capscrew	2	11	1375125	Bracket (LH)	1
2	300932	Washer	2	12	1375129	Bracket (RH)	1
3	340796	Washer	2	13	1375128	Plate	1
4	1351098	Cup	2	14	196898	Screw	1
5	1351096	Isolator	2	15	197853	Screw	1
6	1351061	Spacer	2	16	174413	Screw	6
7	1351060	Bumper	2	17	293686	Capscrew	4
8	300939	Washer	2	18	296426	Washer	4
9	300937	Locknut	2	19	316828	Locknut	4
10	1351017	Spacer	AR				

## EXHAUST (Figure 7) GASOLINE AND LPG



### KEY:

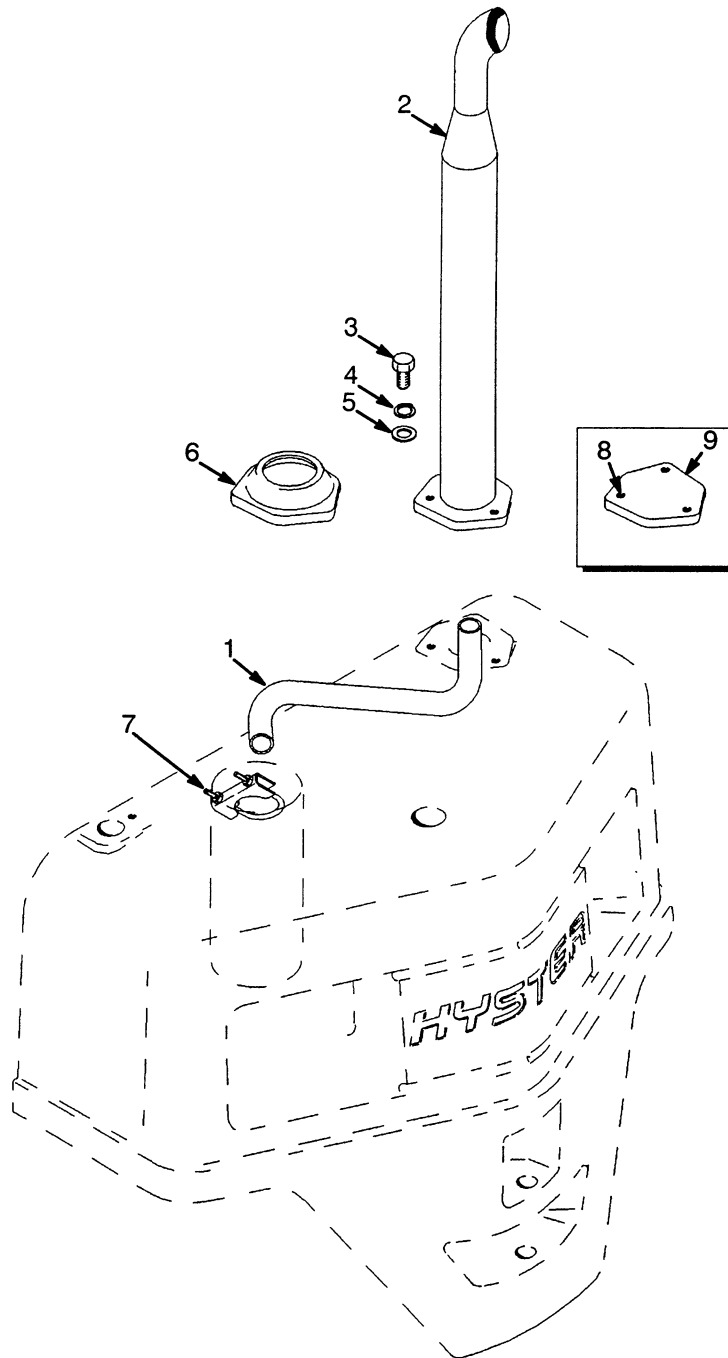
A: 2.2L Engine  
B: 2.0L Engine  
C: 3.0L Engine

REF	PART NO.	NAME OF PART	QTY		
			A	B	C
1	1338282	Muffer	1	1	1
1 <sup>a</sup>	1350261	Muffer	1	1	1
2	68968	Clamp	3	2	3
3	195769	Clamp		1	..
4	292517	Capscrew	2	2	2
5	316826	Nut	2	2	2
6	1351176	Washer	2	2	2
7	320159	Washer	2	2	2
8	1351177	Spacer	4	4	4
9	1338332	Pipe	1	..	..
9	1375155	Pipe	..	1	..
10	1347125	Tube	1	..	..
10	1347126	Tube	..	1	..
10	1383012	Tube	..	1	..

REF	PART NO.	NAME OF PART	QTY		
			A	B	C
11	1338258	Seal	1	..	..
11	1375189	Seal	..	..	1
12	1337118	Capscrew	2	..	..
12	1376766	Capscrew	..	2	..
13	1335898	Spring	2	..	2
14	292682	Lockwasher	2	..	..
15	1338300	Pipe	1	..	..
16	292681	Lockwasher	4	..	..
17	239503	Nut	4	..	..
18	1338308	Gasket	1	..	..
19	1338276	Pipe	1	1	1
20	251979	Lubricant	AR	AR	AR

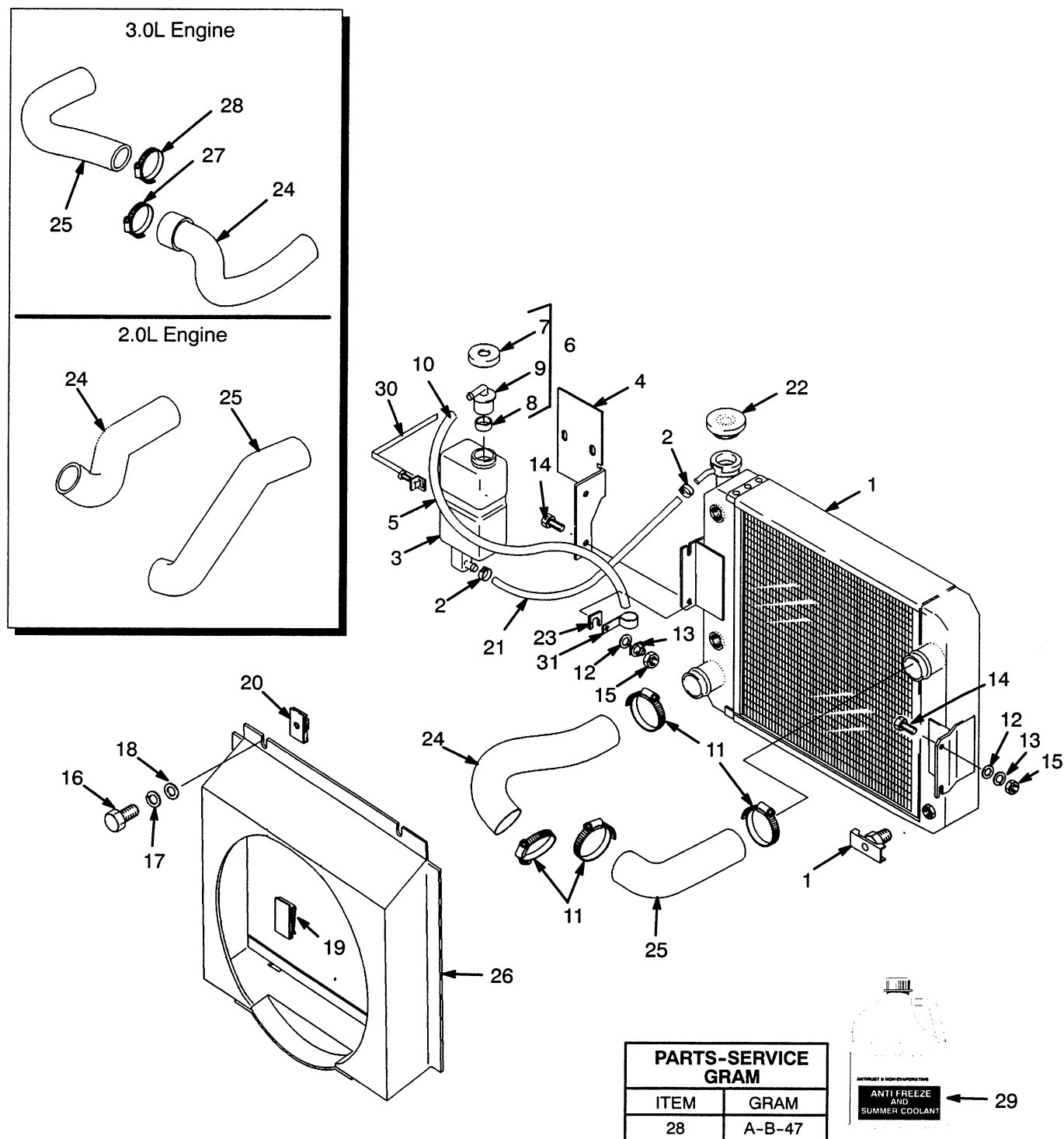
<sup>a</sup> Types GS And LPS

## EXHAUST (Figure 8) OVERHEAD



REF	PART NO.	NAME OF PART	QTY	REF	PART NO.	NAME OF PART	QTY
1	1335764	Tube .....	1	7	68968	Clamp .....	1
2	1335765	Tailpipe .....	1	8 <sup>b</sup>	1347045	Fastener .....	3
3	287854	Capscrew .....	3	9 <sup>b</sup>	1347043	Cover .....	1
4	292682	Lockwasher .....	3				
5	320159	Washer .....	3	<sup>a</sup>	2.0L LPG		
6	1351178	Cover .....	1	<sup>b</sup>	Used With Counterweight Exhaust		
6 <sup>a</sup>	1365887	Cover .....	1				

## RADIATOR AND HOSES (Figure 9) GASOLINE AND LPG



## RADIATOR AND HOSES

### GASOLINE AND LPG

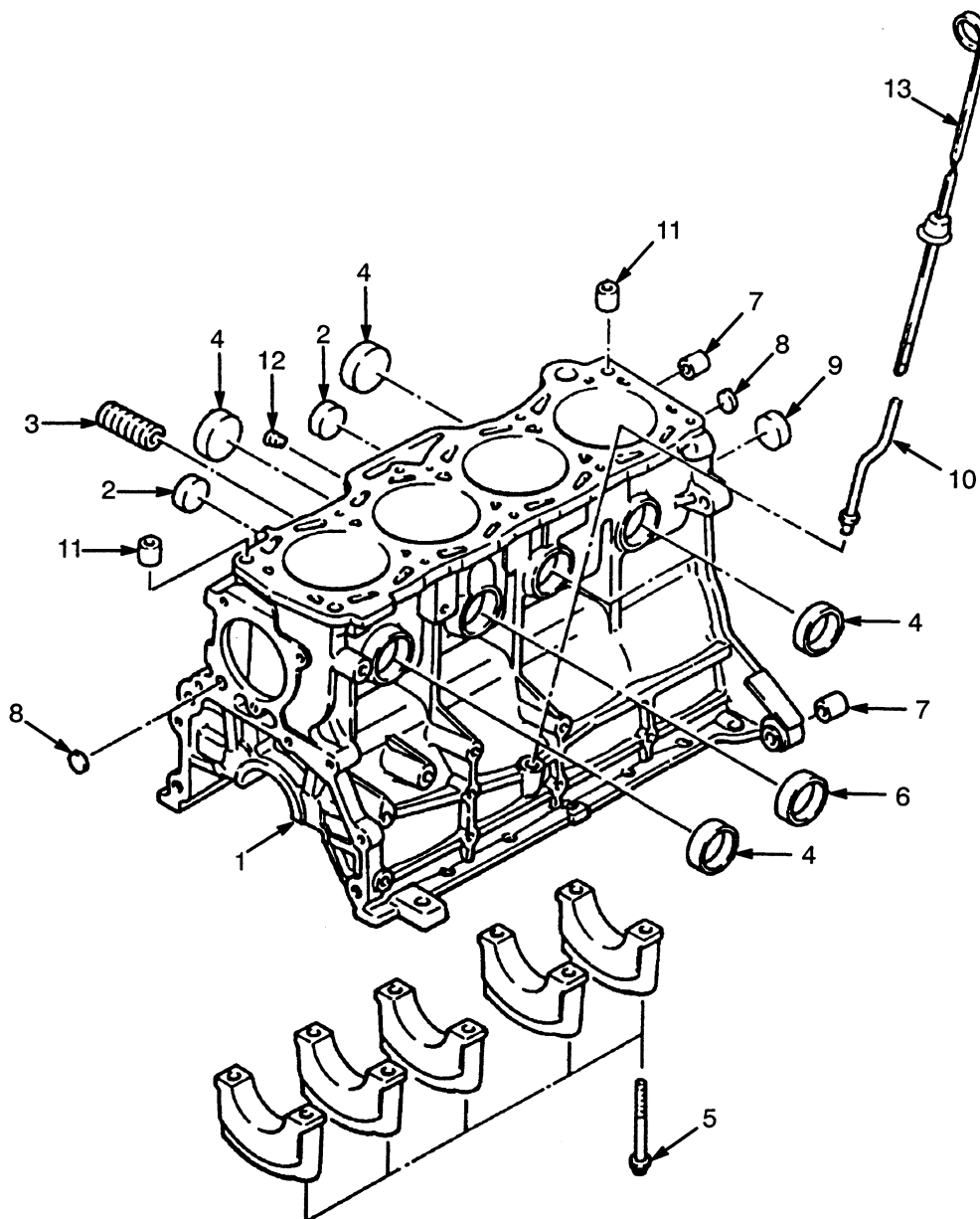
KEY:  
A: 2.0L  
B: 2.2L  
C: 3.0L

REF	PART NO.	NAME OF PART	QTY			REF	PART NO.	NAME OF PART	QTY		
			A	B	C				A	B	C
1	1338328	Radiator (10 Fins/Inch) . . . .	1	1	..	17	1347076	Washer . . . . .	2	2	2
1	1337002	Radiator (10 Fins/Inch) . . . . .	..	1		18	292678	Lockwasher . . . . .	2	2	2
1	<sup>a</sup> 1343623	Radiator (6.5 Fins/Inch) . . . .	1	1	..	19	1329271	Clip . . . . .	2	2	2
1	<sup>a</sup> 1343618	Radiator (6.5 Fins/Inch) . . . . .	..	1		20	1329272	Nut . . . . .	2	2	2
1	1357716	Oil Cooler . . . . .	1	1	..	21	1359580	Tube . . . . .	1	1	1
1	1357717	Oil Cooler . . . . .	..	1		22	1352140	Radiator Cap . . . . .	1	1	1
1	1357721	Draincock . . . . .	1	1	1	23	1331152	Shim . . . . .	AR	AR	AR
2	168718	Clamp . . . . .	2	2	2	24	133651	Hose (Lower) . . . . .	1	..	..
3	1347026	Reservoir . . . . .	1	1	1	24	1339272	Hose (Lower) . . . . .	1	..	..
4	1347072	Bracket . . . . .	1	1	1	24	1376722	Hose (Lower) . . . . .	..	1	..
5	1457312	Hose . . . . .	1	1	1	25	1368949	Hose (Upper) . . . . .	1	..	..
6	1359581	Outlet Assembly . . . . .	1	1	1	25	1339271	Hose (Upper) . . . . .	1	..	..
7	345454	Cap . . . . .	1	1	1	25	1375132	Hose (Upper) . . . . .	..	1	..
8	336550	Bushing . . . . .	1	1	1	26	1339635	Shroud . . . . .	1	..	..
9	345453	Outlet . . . . .	1	1	1	26	1339273	Shroud . . . . .	1	..	..
10	1457312	Hose . . . . .	1	1	1	26	1375134	Shroud . . . . .	..	1	..
11	127045	Clamp . . . . .	4	4	..	27	119236	Clamp . . . . .	..	1	..
11	127045	Clamp . . . . .	..	2		28	369804	Clamp . . . . .	..	1	..
12	292682	Lockwasher . . . . .	3	3	3	29	3002338	Antifreeze (1 Gallon) . . . .	..	AR	AR
13	320159	Washer . . . . .	3	3	3	30	1345825	Strap . . . . .	1	1	1
14	136985	Capscrew . . . . .	3	3	3	31	173247	Clamp . . . . .	1	1	1
15	136692	Nut . . . . .	3	3	3						
16	302235	Screw . . . . .	2	2	2						

<sup>a</sup> Optional

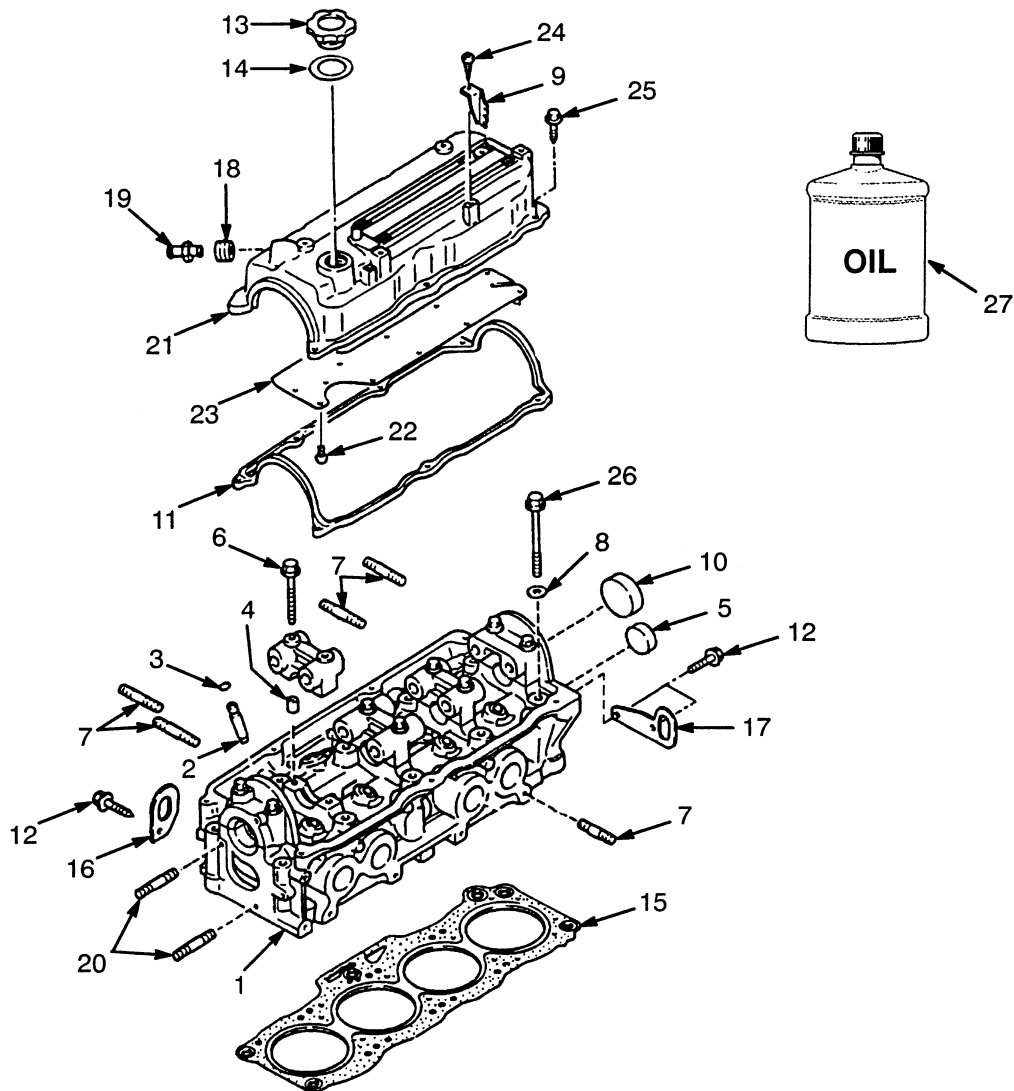


## CYLINDER BLOCK (Figure 10) GASOLINE AND LPG 2.0L



REF	PART NO.	NAME OF PART	QTY	REF	PART NO.	NAME OF PART	QTY
a	1335944	Engine (Gasoline) .....	1	7	1362008	Pin .....	2
b	1382681	Engine (Gasoline) .....	1	8	1361675	Plug .....	2
a	1356547	Engine (LPG) .....	1	9	1362009	Plug .....	1
b	1382680	Engine (LPG) .....	1	10	1360899	Pipe .....	1
1	1360897	Cylinder Block .....	1	11	1360896	Pin .....	2
2	1362005	Plug .....	2	12	1362006	Plug .....	2
3	1360898	Fitting .....	1	13	1361677	Dipstick .....	1
4	1362003	Plug .....	4				
5	1361676	Bolt .....	10	a	Last Used On S/N D177B-34601		
6	1362007	Plug .....	2	b	First Used On S/N D177B-34602		

**CYLINDER HEAD (Figure 11)  
GASOLINE AND LPG 2.0L**



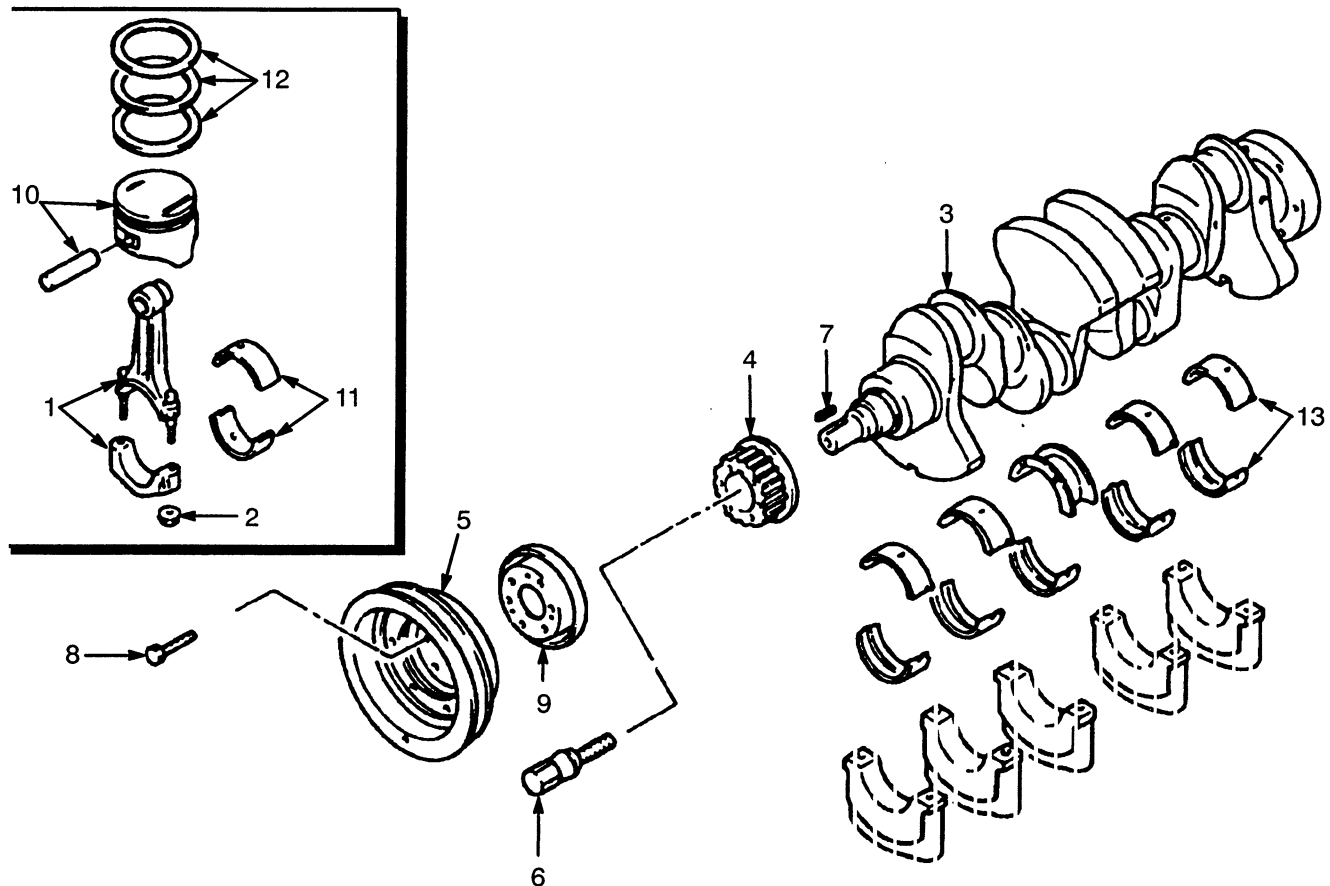
REF	PART NO.	NAME OF PART	QTY	REF	PART NO.	NAME OF PART	QTY
1	1360878	Cylinder Head	1	18	1360892	Seal	1
2	1360895	Valve Guide	8	19	1360893	PCV Valve	1
3	1360879	Clip	8	20	1361889	Stud	4
4	1362002	Pin	10	21	1360883	Cover	1
5	1362003	Plug	1	22	1361896	Screw	12
6	1361894	Bolt	10	23	1360884	Plate	1
7	1361897	Stud	8	24	1362000	Screw	2
8	1360881	Washer	10	25	1362001	Bolt	7
9	1360885	Protector	2	26	1360880	Bolt	10
10	1360882	Cap	8	27	3021390	Engine Oil (Bulk)	AR
11	<sup>a</sup> 1360886	Gasket	1	27	3021391	Engine Oil (55 Gallon)	AR
12	1361898	Bolt	2	27	3021392	Engine Oil (12 Quart Case)	AR
13	1360887	Cap	1				
14	1360888	Gasket	1				
15	<sup>a</sup> 1360889	Gasket	1				
16	1360890	Front Hanger	1				
17	1360891	Rear Hanger	1				

<sup>a</sup> Included In Gasket Set 1367190

Note: The Above Parts Are Included  
With Engines 1335944, 1356547,  
1382680, And 1382681

## CRANKSHAFT AND PISTON (Figure 12)

### GASOLINE AND LPG 2.0L

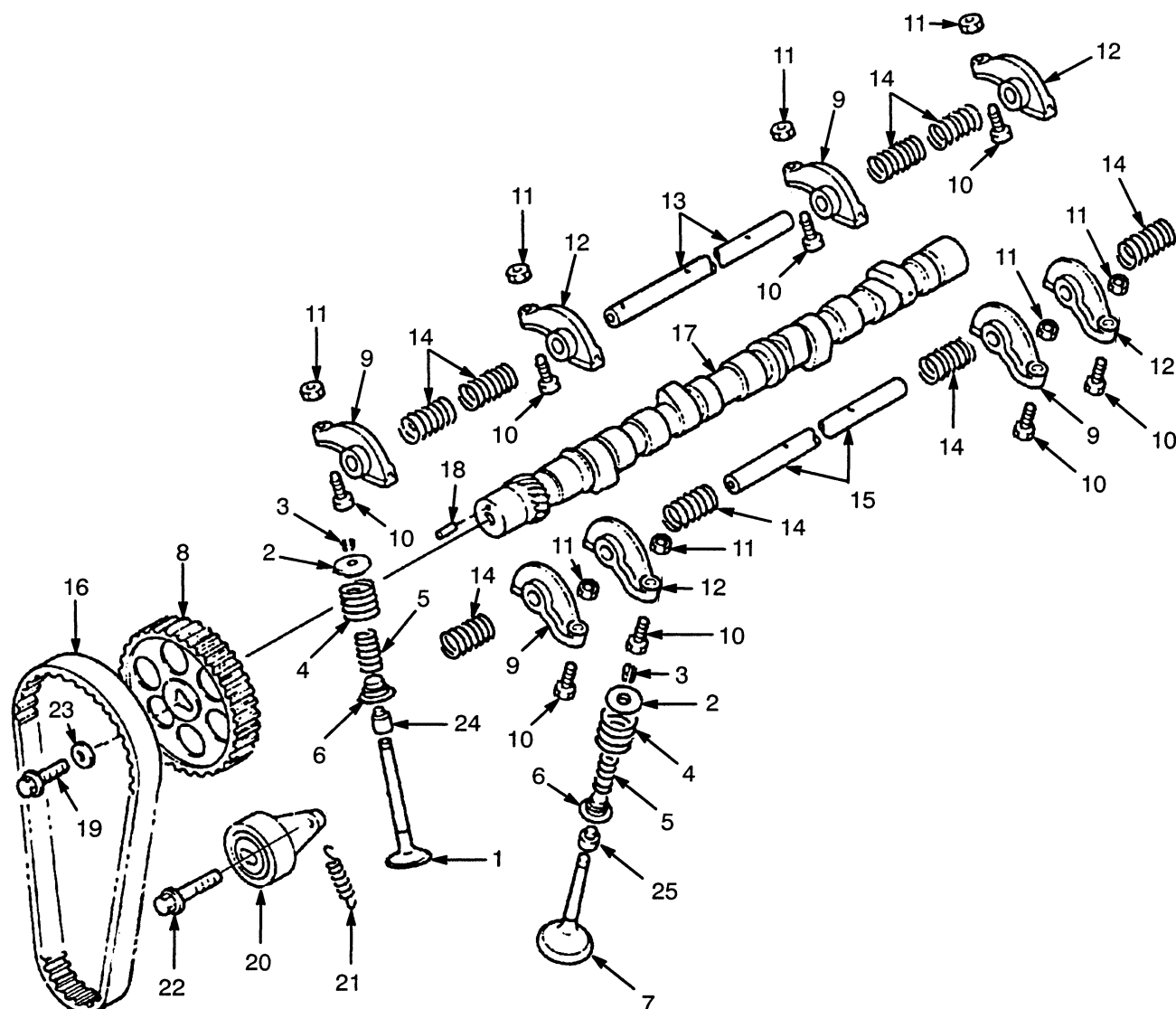


REF	PART NO.	NAME OF PART	QTY
1	1361694	Connecting Rod	4
2	1361695	Nut	8
3	1361696	Crankshaft	1
4	1361698	Pulley	1
5	1361699	Pulley	1
6	1361701	Bolt	1
7	1361697	Key	1
8	1361700	Bolt	6
9	1361702	Plate	1
10	1361714	Piston (Standard)	4
10	1361715	Piston (0.25 mm)	4
10	1361716	Piston (0.50 mm)	4
11	1361703	Bearing (Standard)	1

REF	PART NO.	NAME OF PART	QTY
11	1361704	Bearing (0.25 mm)	1
11	1361705	Bearing (0.50 mm)	1
11	1361706	Bearing (0.75 mm)	1
12	1361707	Piston Ring (Standard)	1
12	1361709	Piston Ring (0.25 mm)	1
12	1361708	Piston Ring (0.50 mm)	1
13	1361710	Bearing (Standard)	1
13	1361713	Bearing (0.25 mm)	1
13	1361711	Bearing (0.50 mm)	1
13	1361712	Bearing (0.75 mm)	1

Note: The Above Parts Are Included  
With Engines 1335944, 1356547,  
1382680, And 1382681

# **CAMSHAFT AND VALVES (Figure 13)** **GASOLINE AND LPG 2.0L**



REF	PART NO.	NAME OF PART	QTY
1	1361720	Intake Valve .....	4
2	1361721	Seat .....	8
3	326612	Sleeve .....	8
4	1361722	Spring .....	8
5	1361723	Spring .....	8
6	1361724	Seat .....	8
7	1361725	Exhaust Valve .....	4
8	1361735	Pulley .....	1
9	1361726	Rocker Arm .....	4
10	1361727	Screw .....	8
11	1361728	Nut .....	8
12	1361729	Rocker Arm .....	4
13	1361730	Shaft .....	1
14	1361731	Spring .....	8
15	1361732	Shaft .....	1

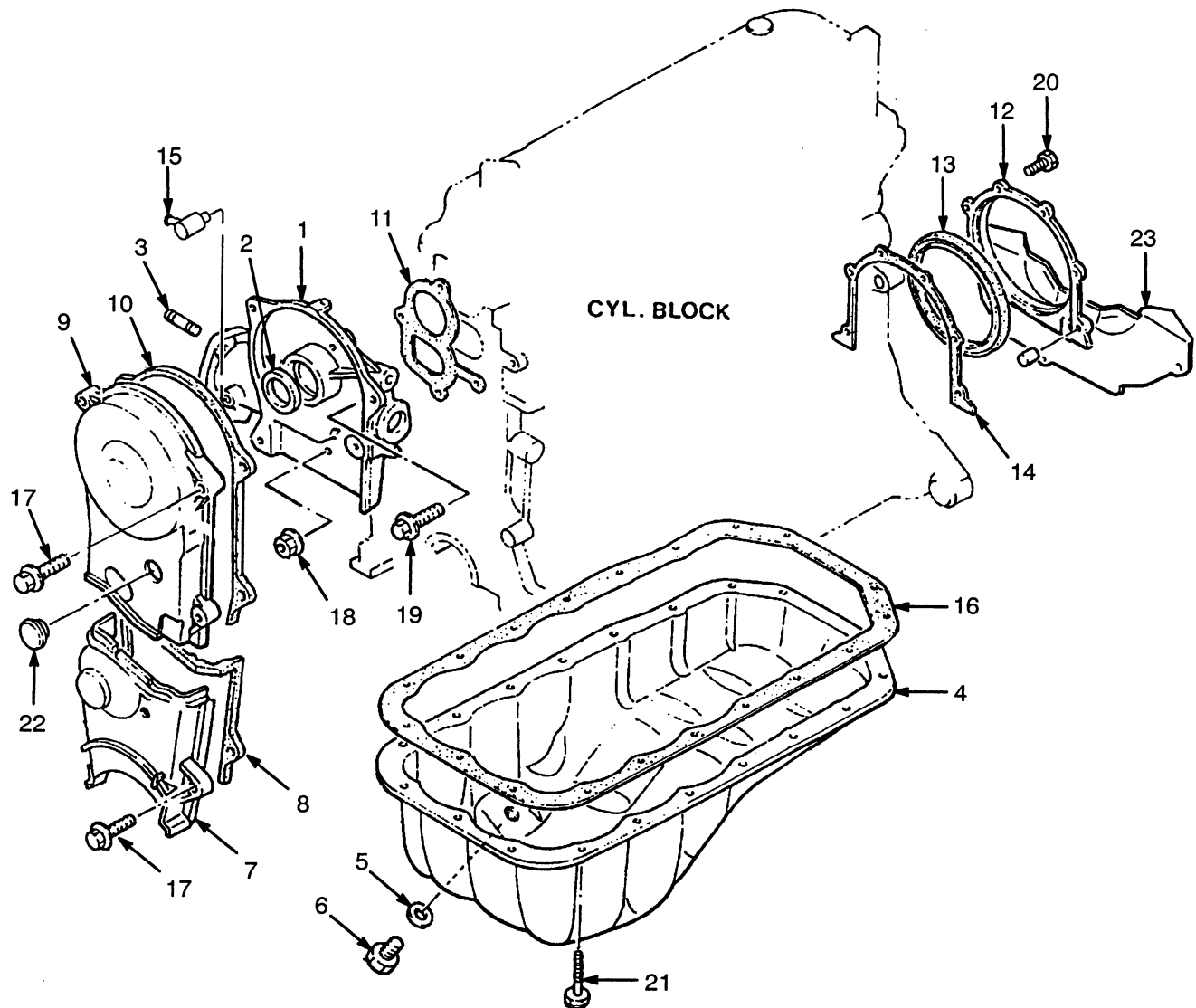
REF	PART NO.	NAME OF PART	QTY
16	1361733	Timing Belt .....	1
17	1361734	Camshaft .....	1
18	1361717	Pin .....	1
19	1361736	Bolt .....	1
20	1361738	Tensioner .....	1
21	1361739	Spring .....	1
22	1362016	Bolt .....	1
23	1361737	Washer .....	1
24	a 1361718	Seal .....	4
25	a 1361719	Seal .....	4

a Included In Gasket Set 1367190

Note: The Above Parts Are Included  
With Engines 1335944, 1356547,  
1382680, And 1382681

## TIMING GEAR COVER AND OIL PAN (Figure 14)

### GASOLINE AND LPG 2.0L



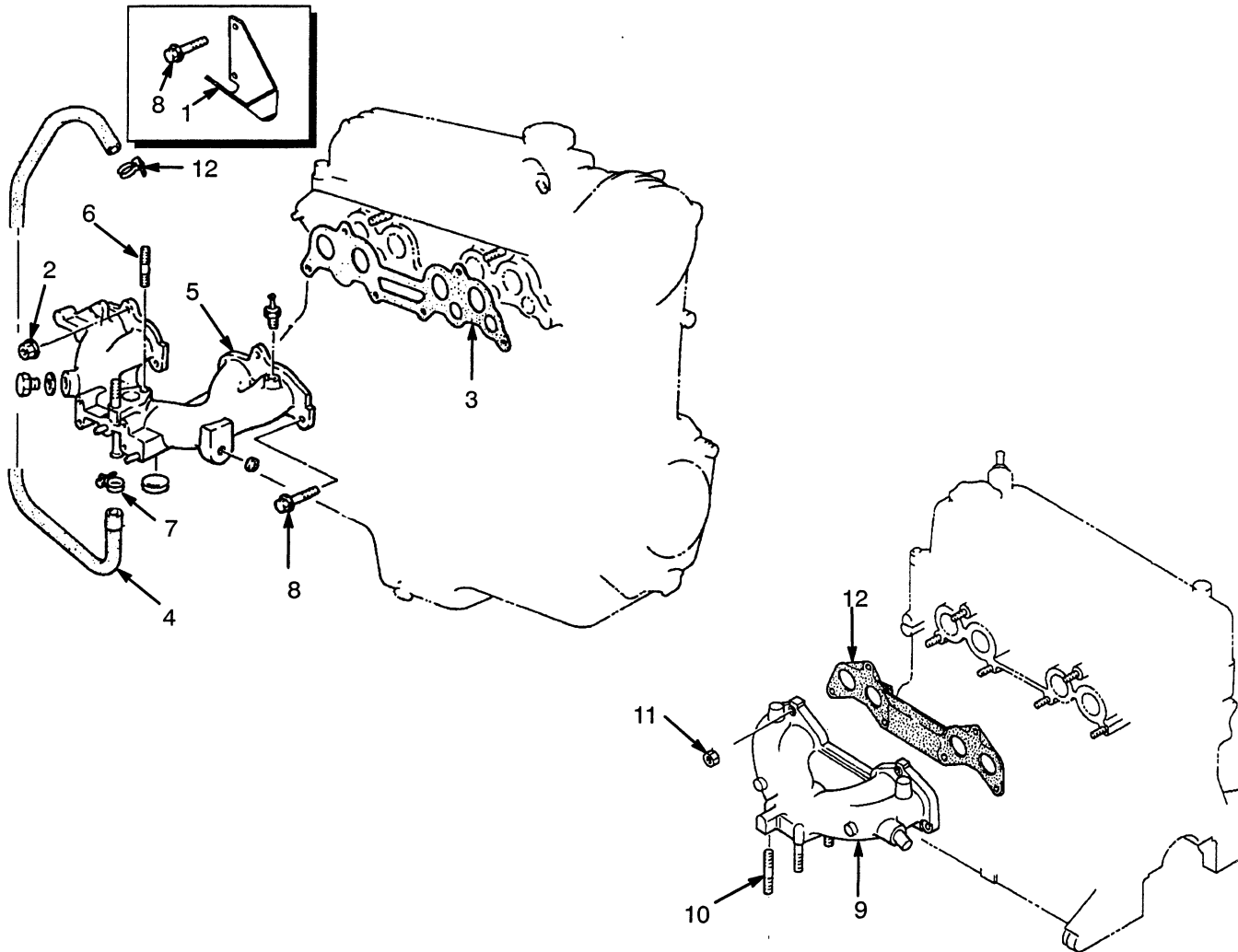
REF	PART NO.	NAME OF PART	QTY
1	1361678	Housing	1
2 <sup>a</sup>	1361688	Oil Seal	1
3	1362012	Stud	2
4	1361680	Oil Pan	1
5	1362015	Gasket	1
6	1361681	Drain Plug	1
7	1361683	Cover	1
8 <sup>a</sup>	1361684	Gasket	1
9	1361686	Cover	1
10 <sup>a</sup>	1361687	Gasket	1
11 <sup>a</sup>	1361679	Gasket	1
12	1361689	Cover	1
13 <sup>a</sup>	1361691	Rear Oil Seal	1
14 <sup>a</sup>	1361690	Gasket	1

REF	PART NO.	NAME OF PART	QTY
15	1361692	Connector Hose	1
16 <sup>a</sup>	1361682	Gasket	1
17	1362001	Bolt	6
18	326504	Nut	2
19	1362013	Bolt	2
20	1362011	Bolt	6
21	1370736	Bolt	19
22	1361685	Plug	1
23	1371652	Cover	1

<sup>a</sup> Included In Gasket Set 1367190

Note: The Above Parts Are Included  
With Engines 1335944, 1356547,  
1382680, And 1382681

**MANIFOLD (Figure 15)**  
**GASOLINE AND LPG 2.0L**



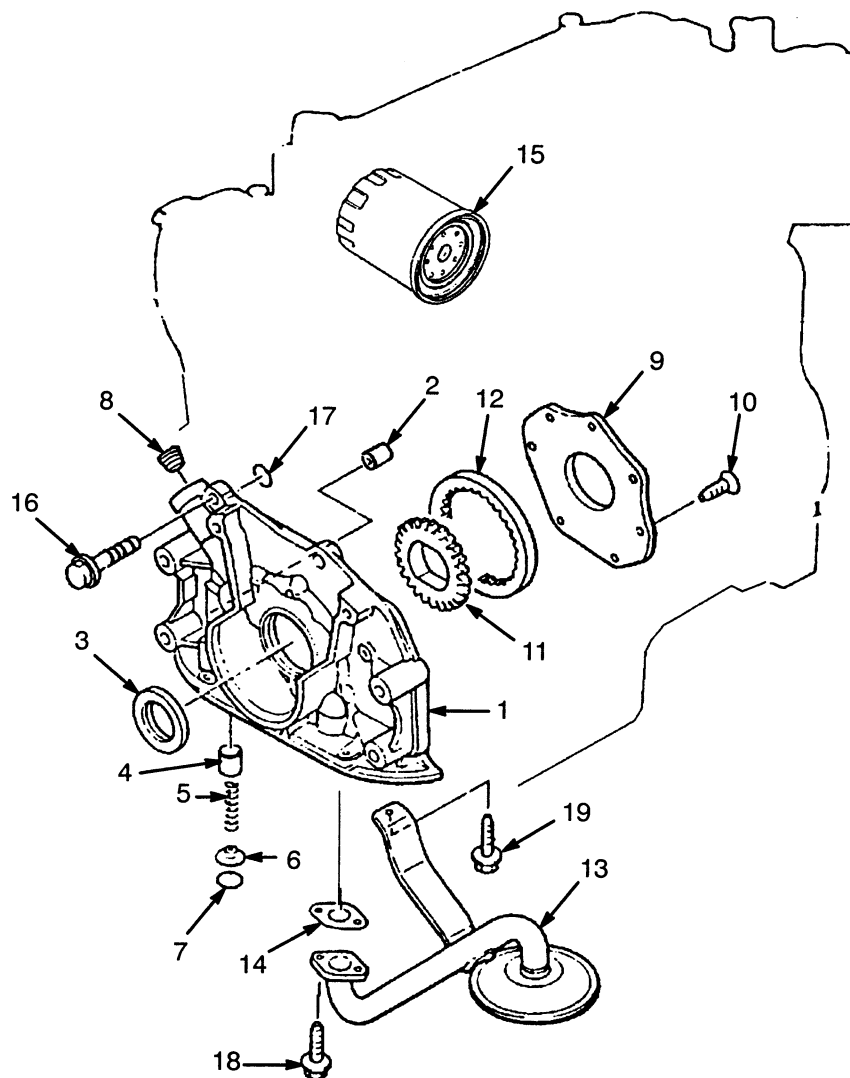
REF	PART NO.	NAME OF PART	QTY
1	1361743	Bracket (Gasoline) .....	1
1	1376620	Bracket (LPG) .....	1
2	326504	Nut .....	4
3	1361742	Gasket .....	1
4 <sup>a</sup>	1361791	Hose-Water .....	1
5	1361740	Inlet Manifold .....	1
6	1362017	Stud .....	2
7	1361873	Clamp .....	2
8	1361885	Bolt .....	4

REF	PART NO.	NAME OF PART	QTY
9	1361744	Exhaust Manifold .....	1
10	1361745	Stud .....	4
11	1361746	Nut .....	6
12	1361747	Gasket .....	1

<sup>a</sup> Gasoline

Note: The Above Parts Are Included  
With Engines 1335944, 1356547,  
1382680, And 1382681

## OIL PUMP AND FILTER (Figure 16) GASOLINE AND LPG 2.0L



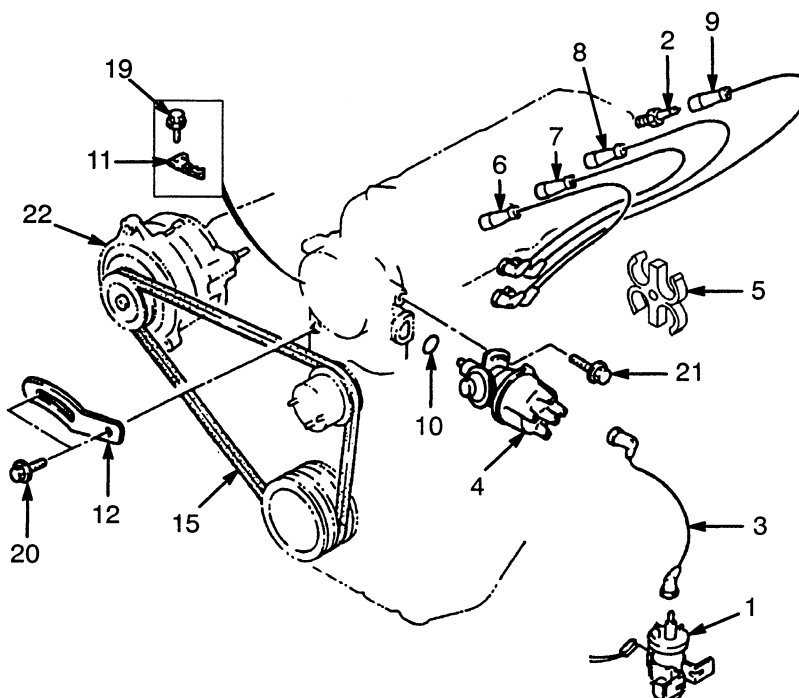
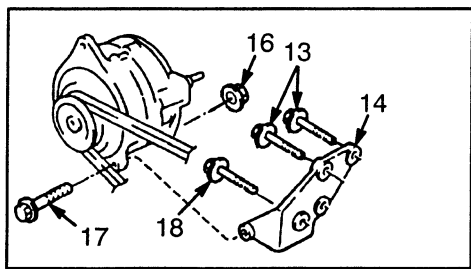
REF	PART NO.	NAME OF PART	QTY
1	1455675	Oil Pump .....	1
2	1361798	Pin .....	2
3 <sup>a</sup>	1361688	Oil Seal .....	1
4	1455674	Plunger .....	1
5	326748	Spring .....	1
6	326749	Seat .....	1
7	1361879	Retaining Ring .....	1
8	1368790	Plug .....	1
9	1361802	Cover .....	1
10	1545677	Screw .....	7
11	1361804	Drive Gear .....	1
12	1361805	Driven Gear .....	1

REF	PART NO.	NAME OF PART	QTY
13	1361806	Strainer .....	1
14 <sup>a</sup>	1361807	Gasket .....	1
15	324692	Oil Filter .....	1
16	1361875	Bolt .....	2
17 <sup>a</sup>	1361801	O-Ring .....	1
18	1361878	Bolt .....	2
19	1361868	Bolt .....	1

<sup>a</sup> Included In Gasket Set 1367190

Note: The Above Parts Are Included  
With Engines 1335944, 1356547,  
1382680, And 1382681

**ELECTRICAL (Figure 17)**  
**GASOLINE AND LPG 2.0L**



REF	PART NO.	NAME OF PART	QTY
1	.....	Ignition Coil .....	1
		☞ Figure 116	
2	1361837	Spark Plug .....	4
3	1361839	Ignition Cable .....	1
4	.....	Distributor .....	1
		☞ Figure 139	
5	1361838	Supporter .....	1
6	1361840	Ignition Cable #1 .....	1
7	1361841	Ignition Cable #2 .....	1
8	1361842	Ignition Cable #3 .....	1
9	1361843	Ignition Cable #4 .....	1
10	<sup>a</sup> 326850	O-Ring .....	1
11	1361844	Protector .....	1
12	1361845	Strap .....	1
13	1361891	Bolt .....	2
14	1361846	Bracket .....	1
15	<sup>b</sup> 1361847	Belt .....	1

REF	PART NO.	NAME OF PART	QTY
15	<sup>c</sup> 1384008	V-Belt .....	1
16	1361890	Nut .....	1
17	1361889	Bolt .....	1
18	1361888	Bolt .....	2
19	1361893	Bolt .....	1
20	1361881	Bolt .....	2
21	1361895	Bolt .....	1
22	.....	Alternator .....	1
		☞ Figure 141	

<sup>a</sup> Included In Gasket Kit 1367190

<sup>b</sup> Last Used On S/N D177B-34601

<sup>c</sup> First Used On S/N D177B-34602

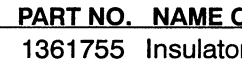
Note: The Above Parts Are Included  
With Engines 1335944, 1356547,  
1382680, And 1382681



This exploded view diagram illustrates the assembly of a carburetor. The components are numbered as follows:

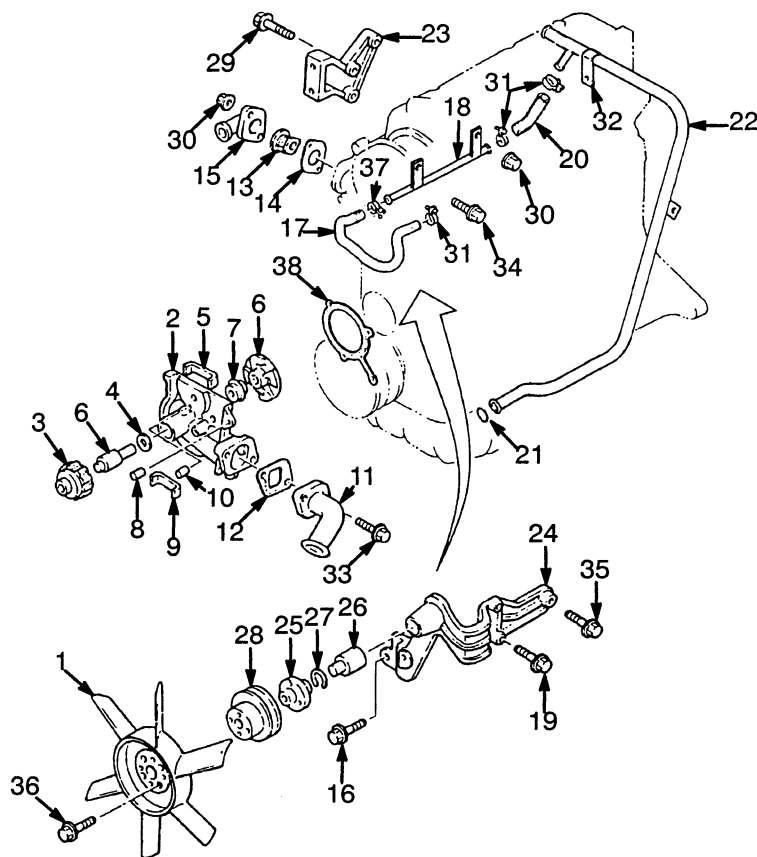
- 1**: Main carburetor body
- 2**: Air filter base
- 3**: Small cylindrical component (possibly a jet or needle)
- 4**: Gaskets or spacers
- 5**: Fuel inlet valve assembly
- 6**: Air filter element
- 7**: Bolt for fuel inlet
- 8**: Fuel line
- 9**: Jet or needle components
- 10**: Jet or needle components
- 11**: Bolt for air filter base
- 12**: Throttle linkage assembly
- 13**: Choke cable
- 14**: Choke lever

**A: LPG**  
**B: Gasoline**

REF	PART NO.	NAME OF PART	QTY	
			A	B
9	1361755	Insulator .....	..	1
10	1361756	Gasket .....	1	2
11	1361868	Bolt .....	..	2
12	.....	Governor .....	1	..
 Figure 81				
13	1360894	Hose (PVC) .....	1	1
14	326504	Nut .....	2	2

**Note: The Above Parts Are Included  
With Engines 1335944, 1356547,  
1382680, And 1382681**

**COOLING (Figure 19)  
GASOLINE AND LPG 2.0L**



REF	PART NO.	NAME OF PART	QTY
1	1361817	Fan	1
2	1361811	Water Pump	1
3	1361816	Pulley	1
4	1361815	Plate	1
5 <sup>a</sup>	1361810	Rubber Seal	1
6		Shaft & Impeller	1
7	1361814	Seal	1
8	1361880	Pin	1
9 <sup>a</sup>	1361809	Rubber Seal	1
10	1361834	Pin	1
11	1361818	Inlet Pipe	1
12 <sup>a</sup>	1361819	Gasket	1
13	1361820	Thermostat	1
14 <sup>a</sup>	1367191	Gasket	1
15	1361821	Outlet Cover	1
16	324707	Bolt	2
17	1361825	Hose	1
18	1361823	Pipe	1
19	1361884	Bolt	3
20	1361824	Hose	1
21 <sup>a</sup>	1361827	O-Ring	1
22	1361828	Pipe	1
23	1361829	Bracket	1
24	1361830	Idler	1

REF	PART NO.	NAME OF PART	QTY
25	1361813	Hub	1
26	1361832	Shaft	1
27	1361835	Ring	1
28 <sup>b</sup>	1361831	Pulley	1
28 <sup>c</sup>	1384006	Pulley	1
29	1361885	Bolt	3
30	326504	Nut	3
31	1361873	Hose Clamp	3
32	1361826	Clamp	1
33	1361881	Bolt	2
34	1361885	Bolt	1
35	1361882	Bolt	1
36	1361878	Bolt	1
37	1361833	Clamp	1
38 <sup>a</sup>	1361812	Gasket	1

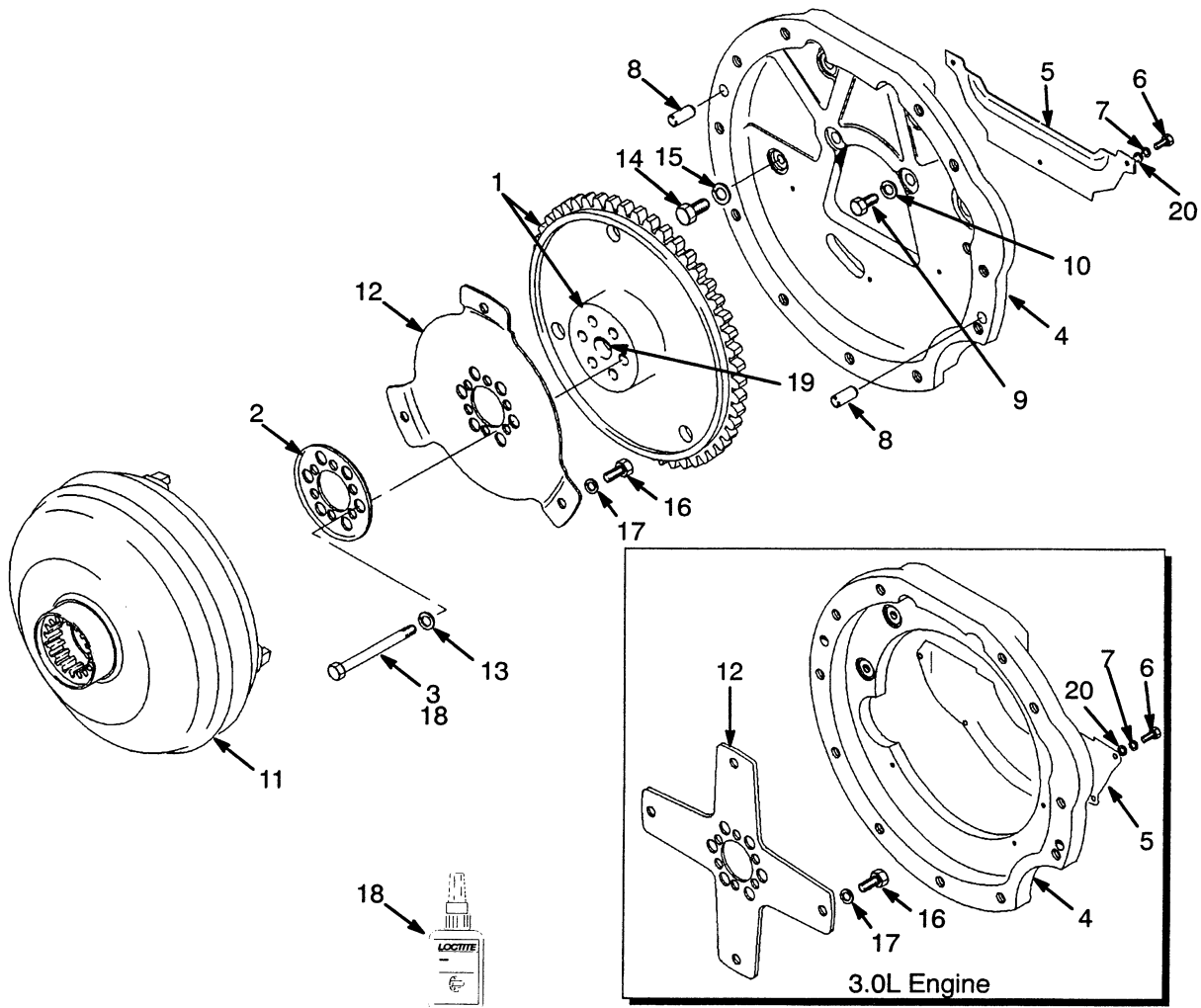
<sup>a</sup> Included In Gasket Kit 1367190

<sup>b</sup> Last Used On S/N D177B-34601

<sup>c</sup> First Used On S/N D177B-34602

Note: The Above Parts Are Included  
With Engines 1335944, 1356547,  
1382680, And 1382681

## FLYWHEEL (Figure 20) GASOLINE AND LPG 2.0L

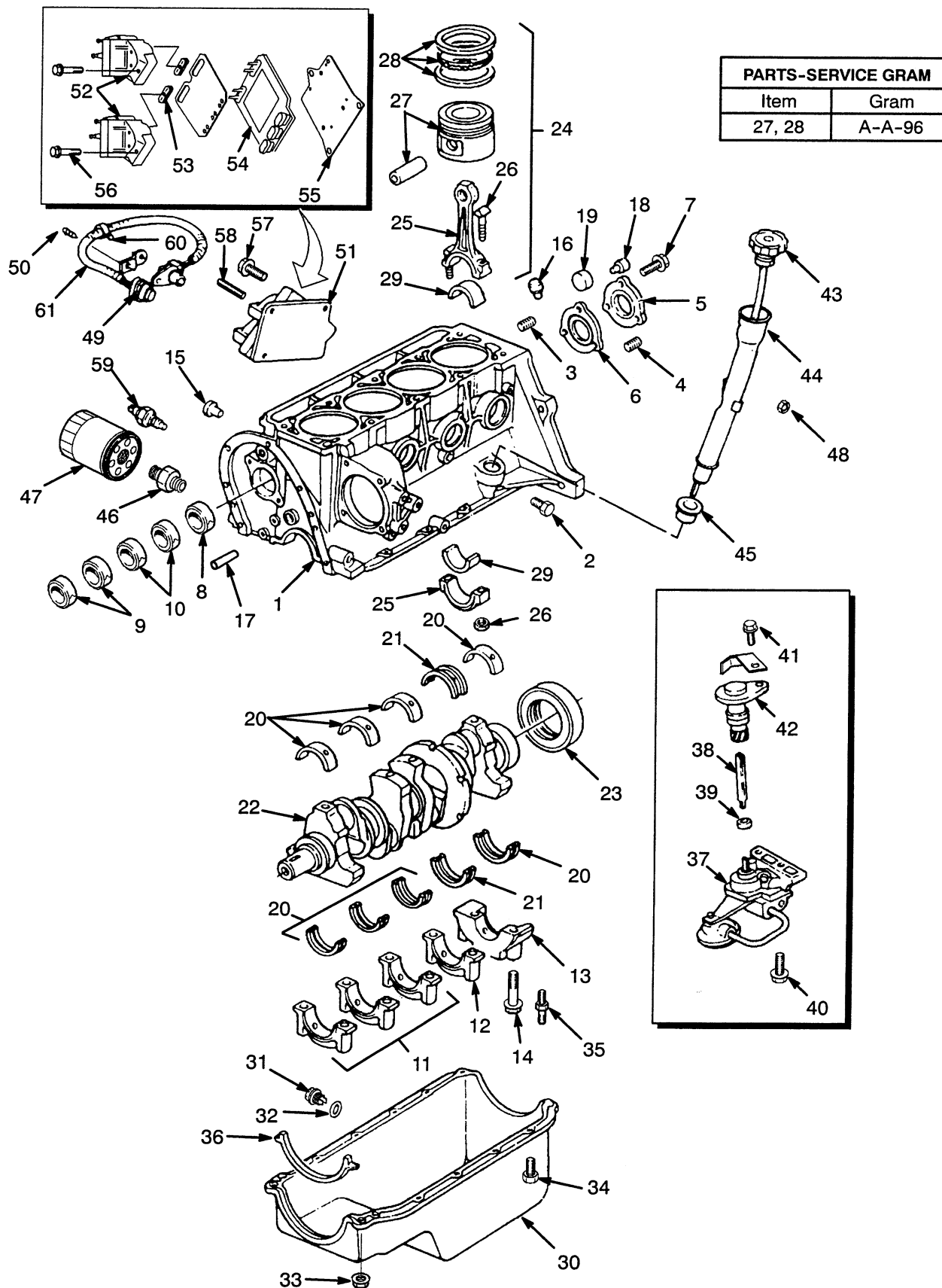


**FLYWHEEL  
GASOLINE AND LPG**

**KEY:**  
**A: 2.2L**  
**B: 2.0L**  
**C: 3.0L**

REF	PART NO.	NAME OF PART	QTY			REF	PART NO.	NAME OF PART	QTY		
			A	B	C				A	B	C
1	1365923	Flywheel .....	1	..	..	10	296424	Washer .....	6	..	..
1	1337107	Ring Gear .....	1	..	..	10	221767	Washer .....	..	6	..
1 a	1352550	Flywheel .....	1	..	..	11	1334714	Torque Converter (3.170) ..	1	..	..
1 a	1359983	Ring Gear .....	1	..	..	11 c	1343586	Torque Converter (3.480) ....	1	..	..
1 b	1378558	Flywheel .....	1	..	..	11 df	1386795	Torque Converter (3.15) .....	1	1	..
1 g	1378555	Spacer .....	1	..	..	11 e	1374620	Torque Converter (3.006) ....	..	1	..
1 d	1386800	Spacer .....	1	..	..	12	1337008	Flexplate .....	1	..	..
1 a	1375141	Flywheel .....	..	1	..	12 c	1337001	Flexplate .....	1	..	..
1 a	1371595	Ring Gear .....	..	1	..	12 df	1394915	Flexplate .....	1	1	..
1 b	1389359	Flywheel .....	..	1	..	12 e	1375140	Flexplate .....	..	1	..
1 h	1389488	Spacer .....	..	1	..	13	296422	Washer .....	6	..	..
1 f	1386799	Spacer .....	..	1	..	13 f	221769	Washer .....	..	6	..
2	1337093	Flexplate Washer .....	1	1	..	14	293614	Capscrew .....	1	..	..
2	1375144	Flexplate Washer .....	..	1	..	15	296418	Washer .....	1	..	..
3	1337106	Capscrew .....	6	..	..	16	15942	Bolt .....	4	3	4
3	1347157	Capscrew .....	6	..	..	17	261379	Washer .....	4	3	4
3	221544	Capscrew .....	..	6	..	18	360387	Adhesive .....	AR	AR	AR
4	1335927	Housing .....	1	..	..	19	251979	Lubricant .....	AR	AR	AR
4	1335937	Housing .....	1	..	..	20	18500	Washer .....	2	2	..
4	1375145	Housing .....	..	1	..						
5	1337182	Cover .....	1	..	..	a	Last Used On S/N D177B-36284 (2.2L/3.0L), D177B-36289 (2.0L)				
5	1371652	Cover .....	1	..	..	b	First Used On S/N D177B-36285 (2.2L/3.0L), D177B-36290 (2.0L)				
5	1371584	Cover .....	..	1	..	c	Last Used On S/N D177B-41853 (2.0L/2.2L) First Used On S/N D177B-41854 (2.0L/2.2L)				
6	148962	Capscrew .....	5	5	..	d	Last Used On S/ND177B-43355 (3.0L)				
6	292513	Capscrew .....	..	3	..	e	First Used On S/N D177B-43356 (3.0L)				
7	292680	Spring Washer .....	5	5	..	f	Used On S/N D177B-36285 (2.2L/3.0L), D177B-36290 (2.0L) Thru S/N D177B-41854				
7	292682	Lockwasher .....	..	3	..	g	Used On S/N D177B-36285 (2.2L/3.0L), D177B-36290 (2.0L) Thru S/N D177B-43357				
8	302385	Pin .....	2	2	2	h					
9	293648	Capscrew .....	6	..	..						
9	305371	Capscrew .....	6	..	..						
9	177461	Capscrew .....	..	6	..						
10	296422	Washer .....	6	..	..						

## CYLINDER BLOCK (Figure 21) GASOLINE AND LPG 2.2L



**CYLINDER BLOCK**  
**GASOLINE AND LPG**  
**2.2L**

**KEY:**

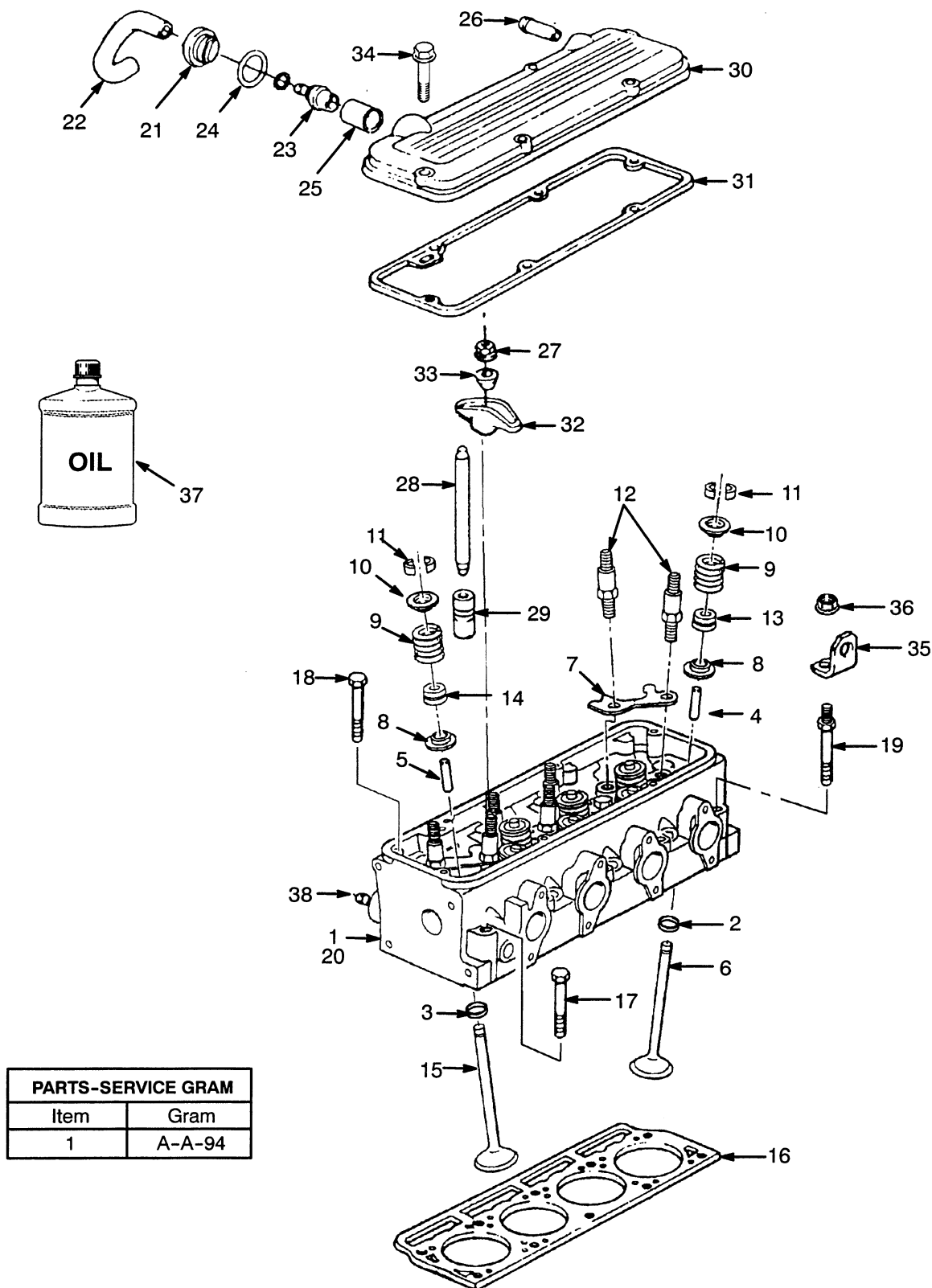
**A:** 1993 Engines 1335942 (Gas), 1335943 (LPG)

**B:** 1994-1995 Engines 1375902 (Gas), 1375901 (LPG)

REF	PART NO.	NAME OF PART	QTY		REF	PART NO.	NAME OF PART	QTY	
			A	B				A	B
1	.....	Cylinder Block .....	1	..	28	1339139	Piston Ring Kit (0.5 mm) ...	1	1
1	<b>a</b>	.....	..	1	28	1339144	Piston Ring Kit (1.0 mm) ...	1	1
2	<b>a</b>	1360203 Plug .....	4	4	29	<b>a</b> 265522	Rod Bearing .....	8	8
3	<b>a</b>	1358096 Plug .....	1	1	30	1358293	Oil Pan (Assembly) .....	1	1
4	<b>a</b>	1335480 Plug .....	1	1	31	1358295	Drain Plug .....	1	1
5	<b>a</b>	1358097 Cover .....	1	1	32	388305	Plug Gasket .....	1	1
6	<b>a</b>	1358098 Gasket .....	1	1	33	1358297	Nut .....	4	4
7	<b>a</b>	1358099 Bolt .....	3	3	34	1358298	Bolt .....	10	10
8	<b>a</b>	1358150 Bearing (Camshaft) .....	1	1	35	1360210	Stud .....	2	2
9	<b>a</b>	1358151 Bearing (Camshaft) .....	2	2	36	1358299	Seal .....	1	1
10	<b>a</b>	1360204 Bearing (Camshaft) .....	2	2	37	.....	Oil Pump .....	1	1
11	<b>a</b>	.....	3	3			Figure 26		
12	<b>a</b>	1358153 Bearing Cap (4) .....	1	1	38	1358501	Shaft .....	1	1
13	.....	Bearing Cap (5) .....	1	1	39	1358502	Retainer .....	1	1
14	<b>a</b>	1358155 Bolt (Bearing Cap) .....	10	10	40	1358503	Bolt .....	1	1
15	<b>a</b>	1358156 Oil By-Pass Valve .....	1	1	41	1358504	Bolt .....	2	2
16	<b>a</b>	1358157 Pin .....	2	2	42	1358505	Oil Pump Drive .....	1	1
17	<b>a</b>	1358158 Pin (Front Cover) .....	2	2	43	1358506	Oil Fill Cap .....	1	1
18	<b>a</b>	1358159 Pin .....	2	2	44	1358507	Tube .....	1	1
19	<b>a</b>	274232 Plug .....	1	1	45	1358508	Seal .....	1	1
20	<b>a</b>	1358161 Bearing .....	8	8	46	1358510	Fitting .....	1	1
21	<b>a</b>	1358162 Bearing .....	2	2	47	1380576	Oil Filter .....	1	1
22	<b>a</b>	1389097 Crankshaft .....	1	1	48	1358509	Nut .....	1	1
23	.....	1358284 Oil Seal .....	1	1	49	1358628	Sensor .....	1	1
24	<b>a</b>	.....	4	4	50	1358629	Stud .....	1	1
25	<b>a</b>	1339128 Connecting Rod .....	1	1	51	1360730	Ignition Coil .....	1	1
26	<b>a</b>	1358287 Bolt .....	2	2	52	1362114	Coil .....	2	2
26	<b>a</b>	1358288 Nut .....	2	2	53	1362115	Seal .....	2	2
27	.....	1339131 Piston (Standard) .....	1	..	54	1362116	Module .....	1	1
27	<b>a</b>	1377014 Piston (Standard) .....	..	1	55	1362117	Plate .....	1	1
27	.....	1339132 Piston (0.04 mm) .....	1	..	56	1362118	Screw .....	4	4
27	<b>a</b>	1377016 Piston (0.04 mm) .....	..	1	57	1358635	Bolt .....	2	2
27	.....	1339133 Piston (0.5 mm) .....	1	..	58	1358636	Stud .....	1	1
27	.....	1377017 Piston (0.5 mm) .....	..	1	59	1375878	Fuel Pump Switch .....	1	1
27	.....	1339134 Piston (1.0 mm) .....	1	..	60	1392536	Clip .....	..	1
27	.....	1377018 Piston (1.0 mm) .....	..	1	61	1392538	Harness .....	..	1
28	.....	1339135 Piston Ring Kit (Standard) ..	1	1					

**a** Included In Short Block Assy P/N 1389096  
For Engines 1375901 And 1375902

## CYLINDER HEAD (Figure 22) GASOLINE AND LPG 2.2L



PARTS-SERVICE GRAM	
Item	Gram
1	A-A-94

## CYLINDER HEAD

### GASOLINE AND LPG 2.2L

**KEY**

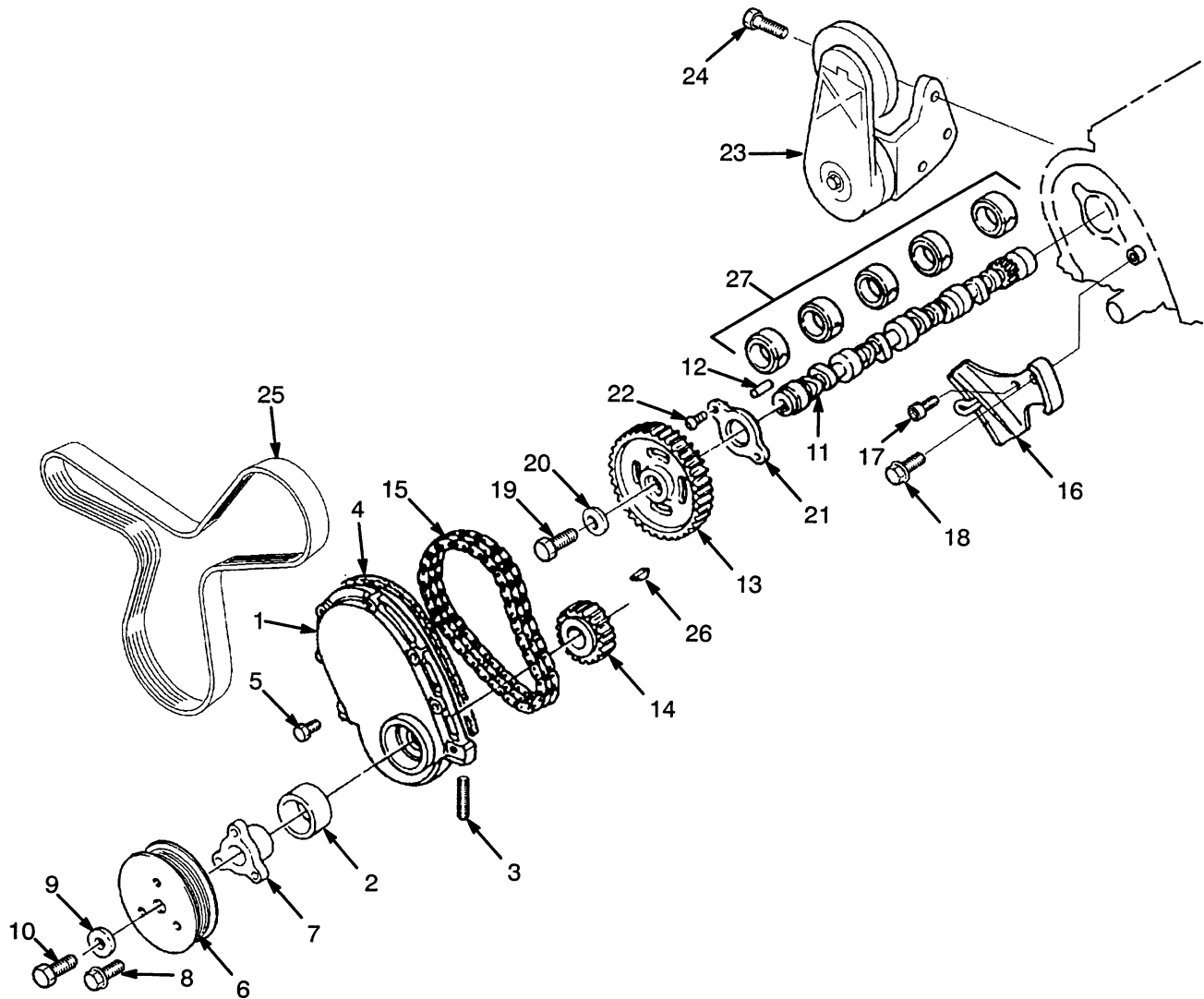
**A:** Engines 1335942, 1335943

**B:** Engines 1375901, 1375902

REF	PART NO.	NAME OF PART	QTY		REF	PART NO.	NAME OF PART	QTY	
			A	B				A	B
	1377023	Cylinder Head Assembly With Valves .....	1	1	14	b 1378326	Oil Seal Valve Stem (Intake) . . .	8	
1	c 1339159	Cylinder Head .....	1	..	15	1367541	Inlet Valve (Standard) .....	4	..
1	a 1339159	Cylinder Head .....	..	1	15	a 1367541	Inlet Valve (Standard) .....	..	4
1	b 1376952	Cylinder Head .....	..	1	15	b 1378327	Inlet Valve (Standard) .....	..	4
2	1358164	Exhaust Insert Valve .....	4	4	15	1339167	Inlet Valve (0.075 mm) .....	4	..
3	1339160	Inlet Insert Valve .....	4	4	15	a 1339167	Inlet Valve (0.075 mm) .....	..	4
4	c 1339162	Valve Guide (Exhaust) .....	4	4	15	b 1378328	Inlet Valve (0.127 mm) .....	..	4
5	1339161	Valve Guide (Inlet) .....	4	4	15	1339168	Inlet Valve (0.150 mm) .....	4	..
6	1367542	Exhaust Valve (Standard) . . .	4	..	15	a 1339168	Inlet Valve (0.150 mm) .....	..	4
6	a 1367542	Exhaust Valve (Standard) . . .	..	4	15	1339169	Inlet Valve (0.300 mm) .....	4	..
6	b 1378329	Exhaust Valve (Standard) . . .	..	4	15	a 1339169	Inlet Valve (0.300 mm) .....	..	4
6	1339164	Exhaust Valve (0.075 mm) . . .	4	..	16	1358276	Gasket .....	1	1
6	a 1339164	Exhaust Valve (0.075 mm) . . .	..	4	17	1358277	Bolt (Short) .....	5	5
6	b 1378330	Exhaust Valve (0.127 mm) . . .	..	4	18	1358278	Bolt (Long) .....	1	1
6	1339165	Exhaust Valve (0.150 mm) . . .	4	..	19	1358279	Stud .....	4	4
6	a 1339165	Exhaust Valve (0.150 mm) . . .	..	4	20	1335241	Plug .....	2	2
6	1339166	Exhaust Valve (0.300 mm) . . .	4	..	21	1358512	Retainer .....	1	1
6	a 1339166	Exhaust Valve (0.300 mm) . . .	..	4	22	1360211	Hose .....	1	1
7	1358166	Guide (Push Rod) .....	4	4	23	1358514	Valve .....	1	1
8	1339163	Seat (Valve Spring) .....	8	..	24	1358515	Fitting .....	1	1
8	a 1339163	Seat (Valve Spring) .....	..	8	25	1358517	Grommet .....	1	1
8	b 1378322	Seat (Valve Spring) .....	..	8	26	1358892	Tube .....	1	1
9	1331340	Spring & Damper Assembly . . .	8	..	27	1360729	Nut .....	8	8
9	a 1331340	Spring & Damper Assembly . . .	..	8	28	1360726	Push Rod .....	8	8
9	b 1378323	Spring .....	..	8	29	1360727	Lifter .....	8	8
10	1339153	Cap (Valve Spring) .....	8	..	30	1358574	Rocker Arm Cover .....	1	1
10	a 1339153	Cap (Valve Spring) .....	..	8	31	1358625	Gasket .....	1	1
10	b 1378324	Cap (Valve Spring) .....	..	8	32	1360728	Rocker Arm .....	8	8
11	1339157	Valve Key .....	16	..	33	1358626	Ball .....	8	8
11	a 1339157	Valve Key .....	..	16	34	1358524	Bolt .....	6	6
11	b 1378325	Valve Key .....	..	16	35	.....	Bracket .....	1	1
12	1358173	Stud (Valve) .....	8	..	36	1358282	Nut .....	1	1
12	a 1358173	Stud (Valve) .....	..	8	37	3021390	Engine Oil (Bulk) .....	ARAR	
12	b 1378331	Stud (Valve) .....	..	8	37	3021391	Engine Oil (55 Gallons) .....	ARAR	
13	1339154	Oil Valve Stem Seal (Exhaust) .....	4	..	37	3021392	Engine Oil (12 Quart Case) .	ARAR	
13	1339154	Oil Valve Stem Seal (Exhaust) .....	..	4	38	1383922	Plug .....	..	1
14	1339155	Oil Seal Valve Stem (Intake) .	4	..					
14	a 1339155	Oil Seal Valve Stem (Intake) . . .	..	4	a	Last Used On Date Code TO2143WB			
					b	First Used On Date Code TO2144WB (Identified By An "S" At The End Of The Eight Digit Casting Number On The Cylinder Head)			
					c	Use Replacement Part 1377023			



## CAMSHAFT AND TIMING GEAR (Figure 23) GASOLINE AND LPG 2.2L



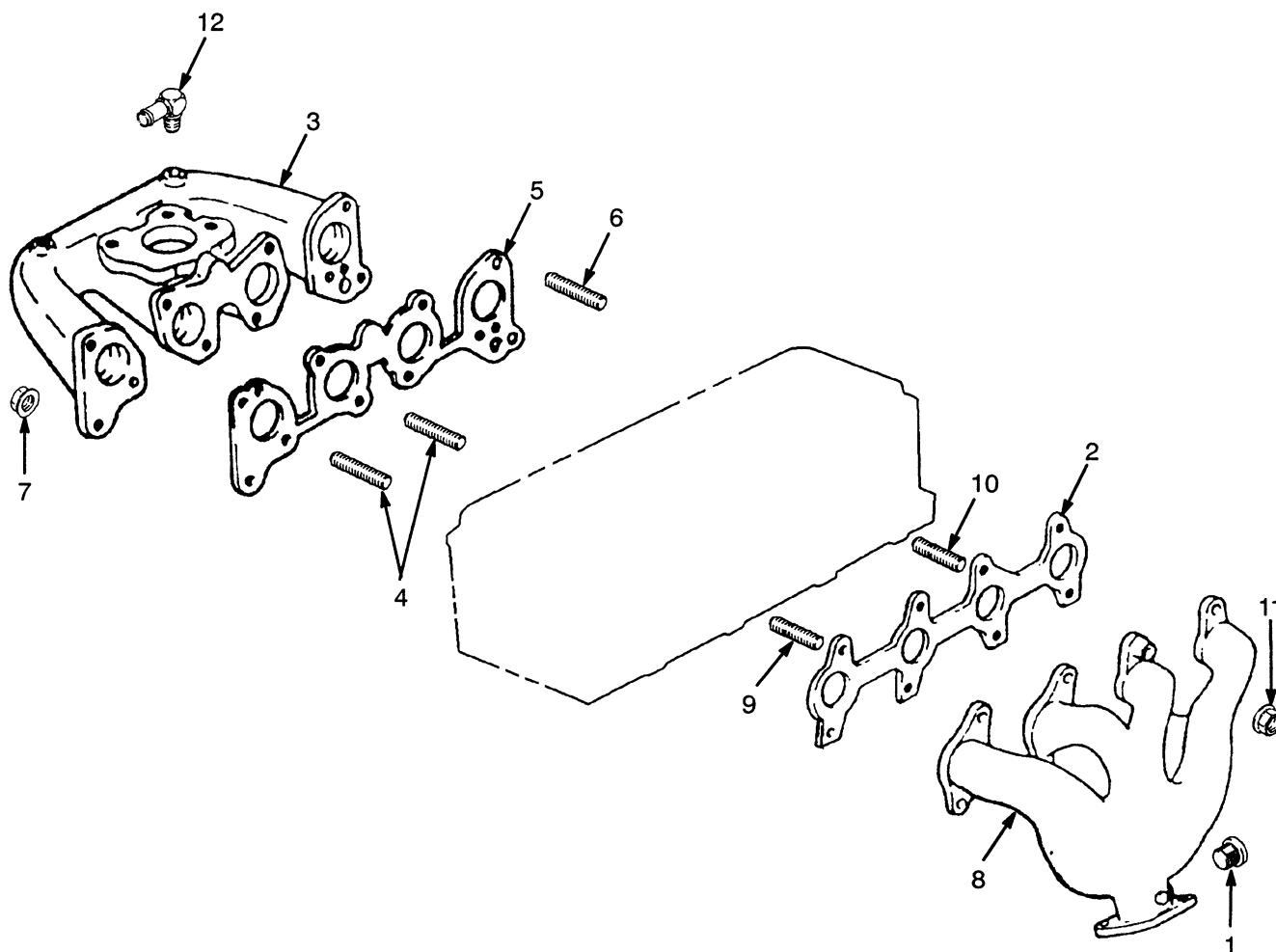
REF	PART NO.	NAME OF PART	QTY
1	1358520	Cover (Front End)	1
2	1358521	Seal (Front Oil)	1
3	1358522	Stud	2
4	1358523	Seal	1
5	1358524	Bolt	7
6	1358525	Pulley (Crankshaft)	1
7	1358526	Hub	1
8	1339149	Bolt	3
8	15134	Washer	3
9	1358527	Washer	1
10	1358528	Bolt	1
11	1360220	Camshaft	1
12	1360221	Pin	1
13	1360222	Sprocket (Camshaft)	1
14	1358562	Sprocket (Crankshaft)	1
15	1358563	Timing Chain	1

REF	PART NO.	NAME OF PART	QTY
16	1358564	Tensioner	1
17	1358565	Bolt	1
18	1358566	Bolt	1
19	1360224	Bolt	1
20	1360725	Washer	1
21	1356838	Thrust Plate (Camshaft)	1
22	1358569	Bolt	2
23	1360735	Tensioner (Belt)	1
24	1360736	Bolt	3
25	1360734	Belt (Type G,LP)	1
25	1365825	Belt (Type GS,LPS)	1
26	7882	Key	2
27		Camshaft Bearings	4

Figure 21

Note: The Above Parts Are Included  
With Engines 1335942 And 1335943

**MANIFOLD (Figure 24)**  
**GASOLINE AND LPG 2.2L**

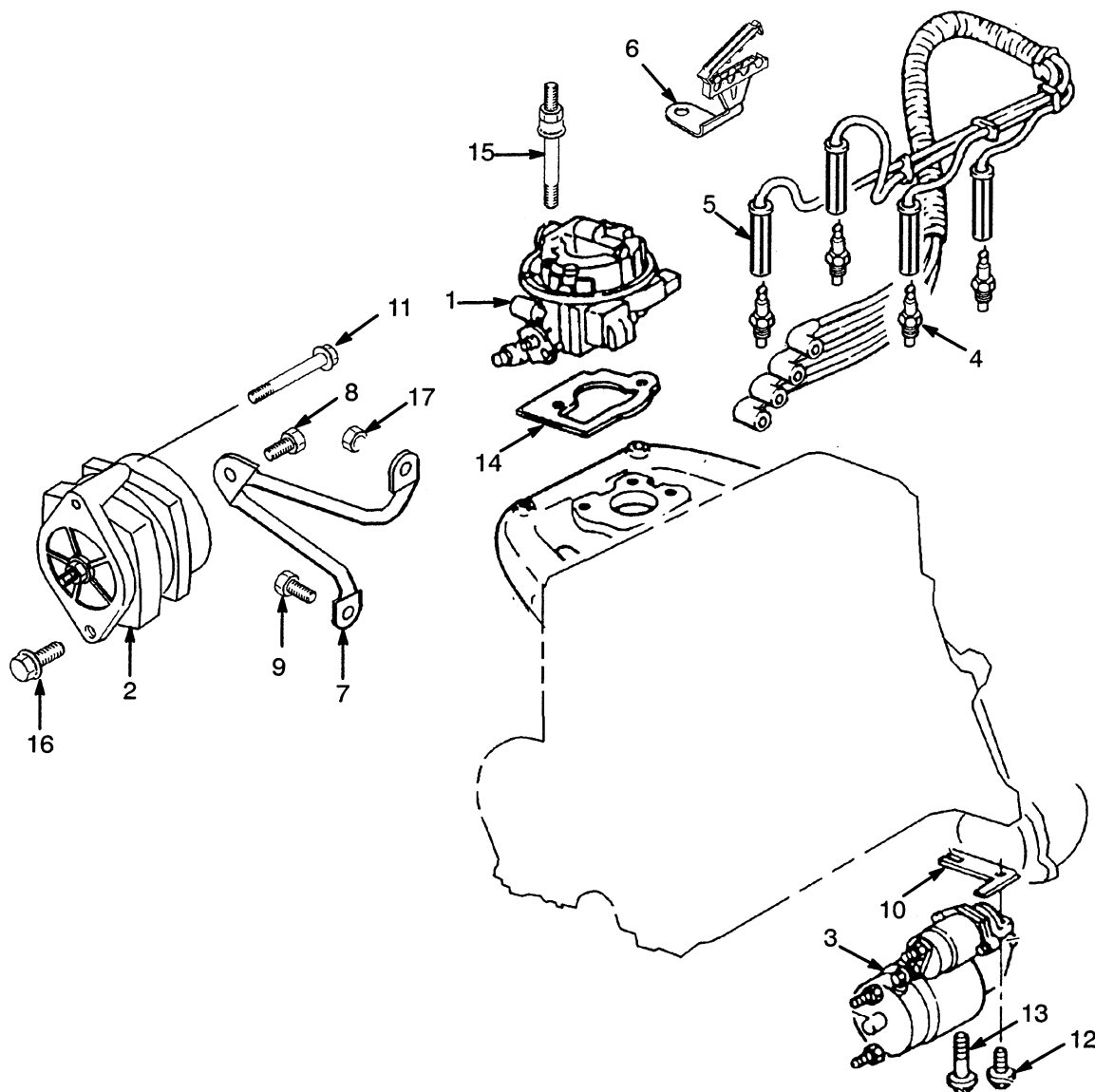


REF	PART NO.	NAME OF PART	QTY
1	1358639	Plug .....	1
2	1358557	Gasket .....	1
3	1358547	Intake Manifold .....	1
3	1358548	Plug .....	2
4	1358549	Stud .....	2
5	1358550	Gasket .....	1
6	1358551	Stud .....	8
7	1358552	Nut .....	12

REF	PART NO.	NAME OF PART	QTY
8	1358553	Exhaust Manifold .....	1
9	1358554	Stud .....	5
10	1358555	Stud .....	3
11	1358509	Nut .....	8
12	15962	Fitting .....	1

Note: The Above Parts Are Included  
With Engines 1335942 And 1335943

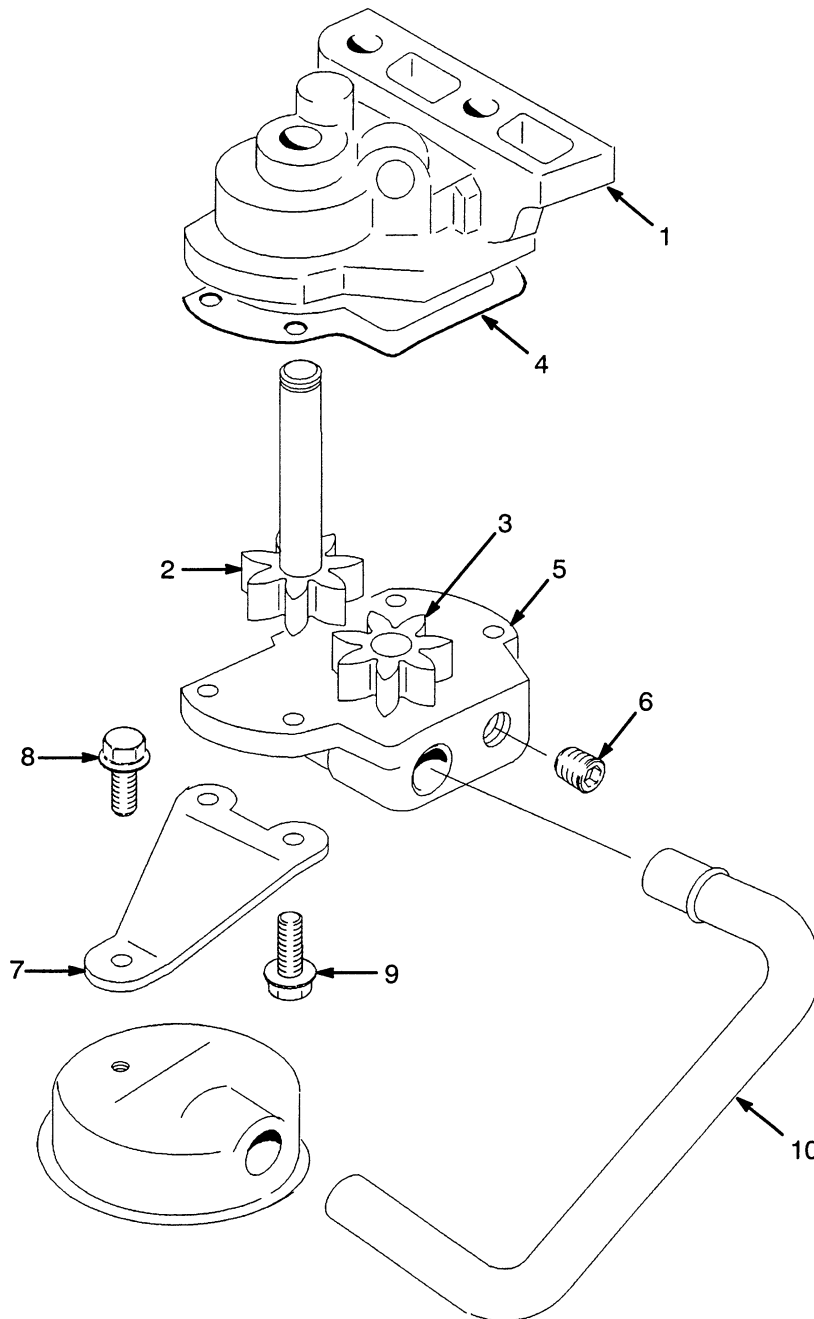
## FUEL AND ELECTRICAL (Figure 25) GASOLINE AND LPG 2.2L



REF	PART NO.	NAME OF PART	QTY
1 <sup>a</sup>	.....	Throttle Body .....	1
		☞ Figure 84	
2	.....	Alternator .....	1
		☞ Figure 142	
3	.....	Starter .....	1
		☞ Figure 151	
4	1378300	Spark Plug .....	4
5	1360731	Spark Plug Wire Harness .....	1
6	1358638	Bracket .....	1
7 <sup>b</sup>	1360740	Bracket .....	1
8 <sup>b</sup>	1360741	Bolt .....	1
9 <sup>bc</sup>	1360743	Bolt .....	1
9 <sup>bd</sup>	1377069	Bolt .....	1
10	1360744	Spacer .....	1

REF	PART NO.	NAME OF PART	QTY
11 <sup>b</sup>	1360745	Bolt .....	1
12	1360746	Bolt .....	1
13	1360747	Bolt .....	1
14	.....	Gasket .....	1
		☞ Figure 84	
15	1360749	Stud .....	2
16	1377069	Capscrew .....	1
17	1358552	Nut .....	1
<sup>a</sup>		Gasoline Only	
<sup>b</sup>		Types G, LP	
<sup>c</sup>		Engine 1335942 And 1335943	
<sup>d</sup>		Engine 1375902 And 1375901	

**OIL PUMP (Figure 26)**  
**GASOLINE AND LPG 2.2L**

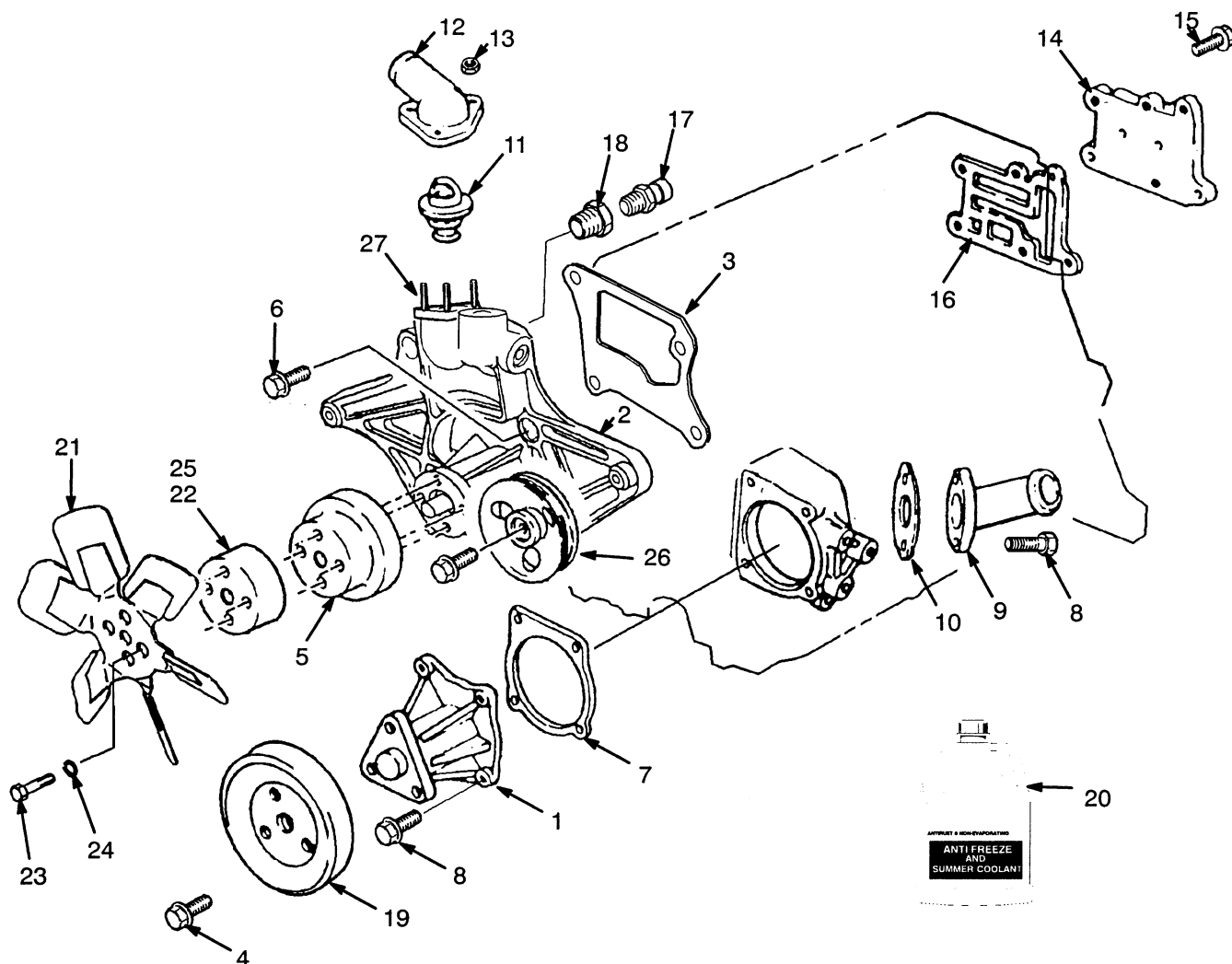


REF	PART NO.	NAME OF PART	QTY	REF	PART NO.	NAME OF PART	QTY
	1358500	Oil Pump .....	1	5	1330453	Pin .....	1
1	.....	Housing .....	1	6	1304786	Plug .....	1
2	.....	Gear (Drive) .....	1	7	1360864	Brace .....	1
3	.....	Gear (Driven) .....	1	8	1360865	Bolt .....	1
4	1360859	Gasket .....	1	9	1360866	Bolt .....	4
5	1360860	Cover .....	1	10	.....	Tube .....	1
5	1338223	Valve Stop .....	1				
5	268573	Pressure Regulator Valve .....	1				
5	1360862	Spring .....	1				

Note: The Above Parts Are Included  
With Engines 1335942 And 1335943

[illegible]

**COOLING (Figure 27)**  
**GASOLINE AND LPG 2.2L**



REF	PART NO.	NAME OF PART	QTY
1	1358529	Water Pump	1
2	<sup>a</sup> 1360213	Bracket	1
2	1358532	Bearing	1
2	1360215	Hub	1
3	<sup>a</sup> 1358534	Gasket (Fan)	1
4	1360738	Bolt	3
5	1358891	Pulley (Fan)	1
6	1452424	Bolt	4
7	1358536	Water Pump Gasket	1
8	1360216	Bolt	6
9	1360217	Water Inlet	1
10	1358539	Gasket	1
11	1358540	Thermostat	1
11	1339152	Seal	1
12	1358541	Water Outlet	1
13	1358543	Nut	3
14	1339156	Cover	1

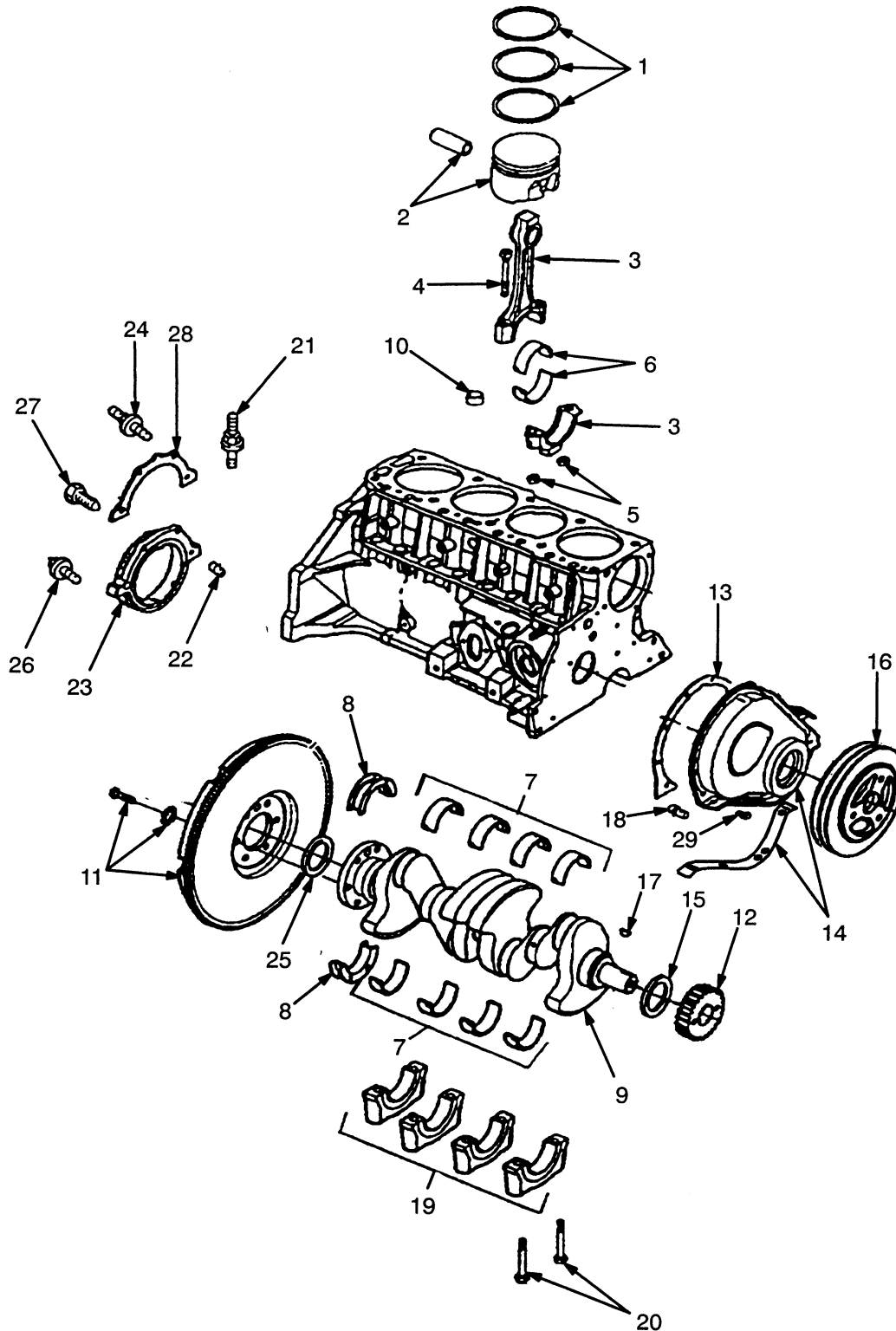
REF	PART NO.	NAME OF PART	QTY
15	1358545	Bolt	6
16	1367543	Gasket	1
17	1314381	Coolant Sensor	1
18	1358640	Reducer	1
19	1360737	Water Pump Pulley	1
20	3002338	Antifreeze (1 Gallon)	AR
21	1347051	Fan	1
22	1339691	Spacer	1
23	18521	Capscrew	4
24	15155	Lockwasher	4
25	1368928	Spacer	1
26	1360733	Pulley	1
27	1358522	Stud	3

<sup>a</sup> Included In Kit 864848

Note: The Above Parts Are Included  
With Engines 1335942 And 1335943


## CRANKSHAFT AND PISTON (Figure 28)

### GASOLINE AND LPG 3.0L



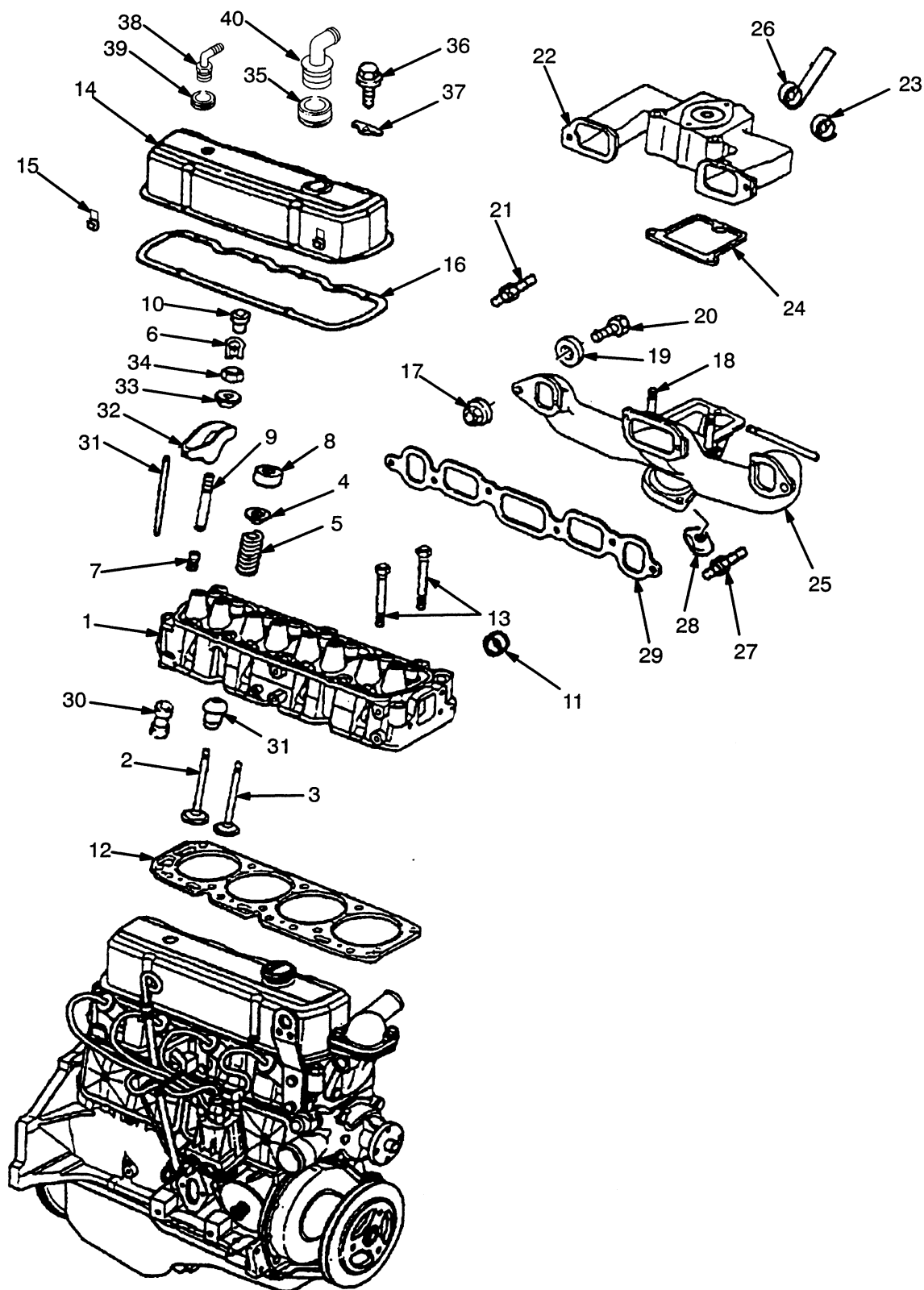
## CRANKSHAFT AND PISTON GASOLINE AND LPG 3.0L

**KEY:**  
**A:** 1996  
**B:** 1997  
**C:** 1998

REF	PART NO.	NAME OF PART	QTY			REF	PART NO.	NAME OF PART	QTY		
			A	B	C				A	B	C
	<b>b</b>	1380583 Engine .....	1	..	..			 Figure 20			
	<b>c</b>	1393580 Engine .....	1	..	..	12	265509	Gear .....	1	1	1
	<b>e</b>	1453580 Engine .....	..	1	..	13	388321	Gasket .....	1	1	1
1	<b>ad</b>	306774 Piston Ring Set (Standard) .....	4	4	4	14	189609	Cover Assembly .....	1	1	1
1		375550 Piston Ring Set (0.760 mm) .....	4	4	4	15	1374107	Oil Seal (Front) .....	1	1	1
2	<b>ad</b>	304619 Piston & Pin (Standard) ...	4	4	4	16	169942	Damper .....	1	1	1
2		304620 Piston & Pin (0.510 mm) ..	4	4	4	17	<b>a</b> 7882	Key .....	1	1	1
3	<b>ad</b>	301190 Rod Assembly .....	4	4	4	18	<b>ad</b> 148827	Oil Nozzle .....	1	1	1
4	<b>ad</b>	289344 Bolt .....	2	2	2	19	<b>ad</b> 244903	Main Bearing Cap .....	4	4	4
5	<b>ad</b>	1375954 Nut .....	2	2	2	20	<b>ad</b> 159973	Bolt .....	10	10	10
6	<b>ad</b>	169964 Rod Bearing (Standard) ..	8	8	8	21	<b>a</b> 164023	Stud .....	1	1	1
6		169966 Rod Bearing (0.051 mm) ..	8	8	8	22		375601 Pin .....	1	1	1
6		169752 Rod Bearing (0.510 mm) ..	8	8	8	23		1335227 Retainer Assembly .....	1	1	..
6		169965 Rod Bearing (0.025 mm) ..	8	8	8	23	<b>e</b> 375572	Retainer Assembly .....	..	1	..
6		169967 Rod Bearing (0.250 mm) ..	8	8	8	24		388364 Stud .....	2	2	2
7	<b>ad</b>	1331335 Main Bearing (Standard) ..	4	4	4	25	<b>e</b> 375555	Seal .....	1	1	..
7		1331336 Main Bearing (0.025 mm) .	4	4	4	25		375555 Seal .....	..	1	..
7		149814 Main Bearing (0.250 mm) .	4	4	4	26		1375953 Bolt .....	1	1	1
7		160602 Main Bearing (0.510 mm) .	4	4	4	27		1330459 Bolt .....	2	2	2
7		149816 Main Bearing (0.760 mm) .	4	4	4	28		1335212 Gasket .....	1	1	1
8	<b>ad</b>	149805 Main Bearing (Standard) ..	1	1	1	29		370169 Screw & Washer .....	8	8	8
8		1331325 Main Bearing (0.025 mm) .	1	1	1		<b>a</b>	Included In Short Block 1331338			
8		1378320 Main Bearing (0.640 mm) .	1	1	1		<b>b</b>	Last Used On S/N D177B-34696			
9	<b>ad</b>	1331342 Crankshaft .....	1	1	..		<b>c</b>	Used On S/N D177B-34697 Thru S/N D177B-39730			
9	<b>e</b>	1455601 Crankshaft .....	..	1	..		<b>d</b>	Included In Short Block 1393427			
10	<b>ad</b>	164022 Plug .....	1	1	1		<b>e</b>	First Used On S/N D177B-39731			
11		..... Flywheel .....	1	1	1						



## CYLINDER HEAD (Figure 29) GASOLINE AND LPG 3.0L

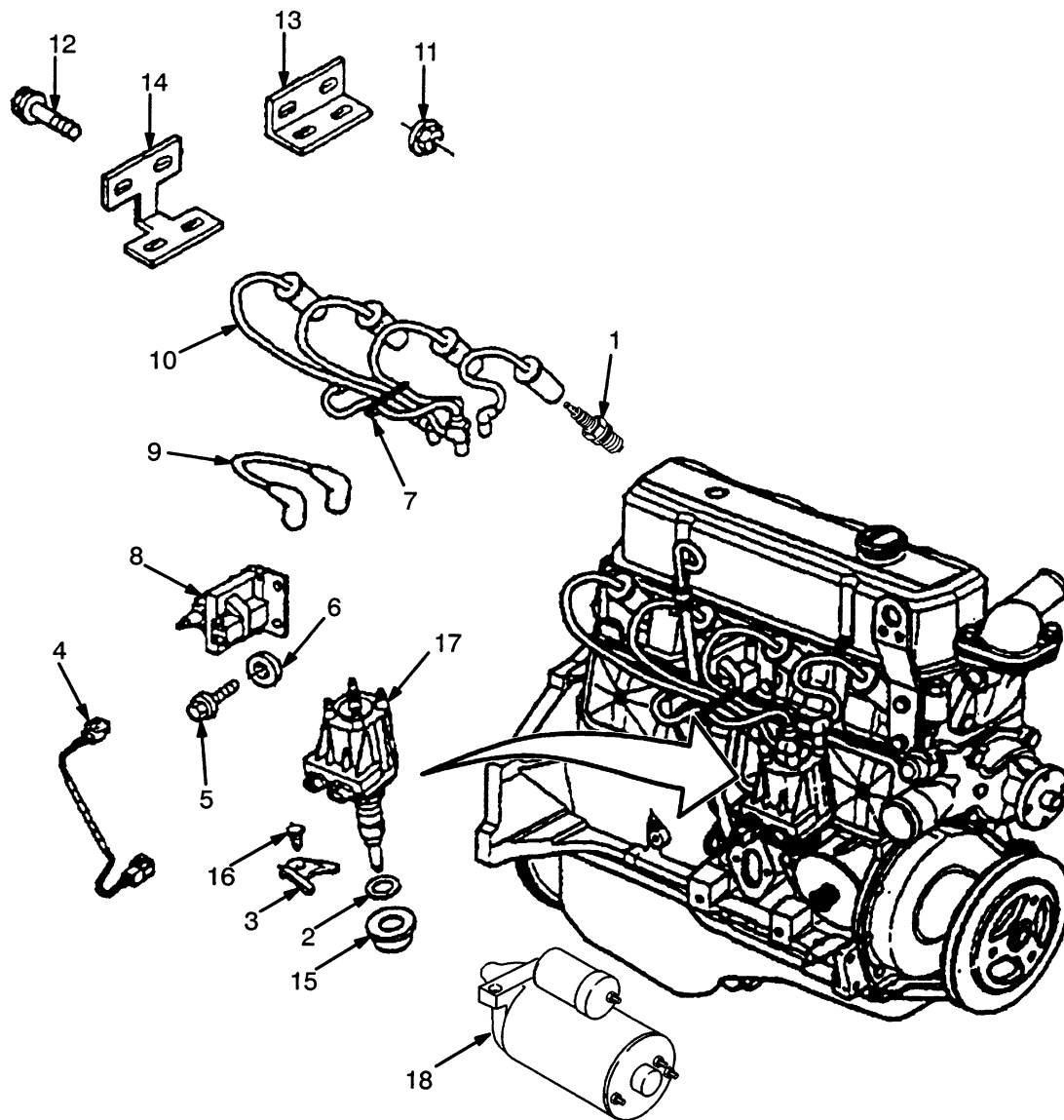


**CYLINDER HEAD  
GASOLINE AND LPG 3.0L**

**KEY:**  
**A: 1996**  
**B: 1997**  
**C: 1998**

REF	PART NO.	NAME OF PART	QTY			REF	PART NO.	NAME OF PART	QTY		
			A	B	C				A	B	C
	<b>b</b>	1380583 Engine .....	1	..	..	19	<b>d</b>	1335219 Lockwasher .....	..	6	
	<b>c</b>	1393580 Engine .....	1	..		20	1331349 Bolt .....	6	6	6	
	<b>d</b>	1453580 Engine .....	..	1		21	254686 Stud .....	1	1	1	
1		1378317 Cylinder Head .....	1	1	1	22	244922 Inlet Manifold .....	1	1	1	
2		244909 Inlet Valve (Standard) ....	4	4	4	23	244925 Thermostat .....	1	1	1	
2		149864 Inlet Valve (0.076 mm) ....	4	4	4	24	1330772 Gasket .....	1	1	1	
2		244910 Inlet Valve (0.380 mm) ....	4	4	4	25	271949 Exhaust Manifold .....	1	1	1	
2		244911 Inlet Valve (0.760 mm) ....	4	4	4	26	160377 Spring .....	1	1	1	
3		381250 Exhaust Valve (Standard) .	4	4	4	27	1300295 Stud .....	2	2	2	
3		381270 Exhaust Valve (0.380 mm) 4	4	4	4	28	149888 Clamp .....	4	4	4	
3		381271 Exhaust Valve (0.760 mm) 4	4	4	4	29	1354046 Gasket .....	1	1	1	
4		149868 Cap .....	8	8	8	30	263839 Hydraulic Lifter .....	8	8	8	
5		145172 Valve Spring .....	8	8	8	31	1354047 Pushrod Assembly .....	8	8	8	
6		263750 Valve Key .....	16	16	16	32	245202 Rocker Arm .....	8	8	8	
7		145173 Valve Seal .....	8	8	8	33	189614 Ball .....	8	8	8	
8		314539 Shield .....	8	8	8	34	301195 Nut .....	8	8	8	
9		149857 Stud (0.076 mm) .....	8	8	8	35	1376789 Grommet .....	1	1	1	
9	<b>a</b>	149858 Stud (0.330 mm) .....	8	8	8	36	1374108 Bolt .....	4	4	4	
10		149867 Rotator .....	4	4	4	37	149978 Special Washer .....	5	5	5	
11		160361 Plug .....	2	2	2	38	321734 Vent Valve .....	1	1	1	
12		1331343 Gasket .....	1	1	1	38	85766 Hose .....	1	1	1	
13		149977 Bolt .....	10	10	10	39	164050 Grommet .....	1	1	1	
14		1331344 Valve Cover .....	1	1	1	40	379407 Fitting .....	1	1	1	
15		1335825 Clip .....	2	2	..		<b>a</b>	Optional			
16		388323 Gasket .....	1	1	1		<b>b</b>	Last Used On S/N D177B-34696			
17		1375954 Nut .....	8	8	8		<b>c</b>	Used On S/N D177B-34697 Thru S/N D177B-39730			
18		149889 Stud .....	2	2	2		<b>d</b>	First Used On S/N D177B-39731			
19		15157 Lockwasher .....	6	6	..						

## ELECTRICAL (Figure 30) GASOLINE AND LPG 3.0L



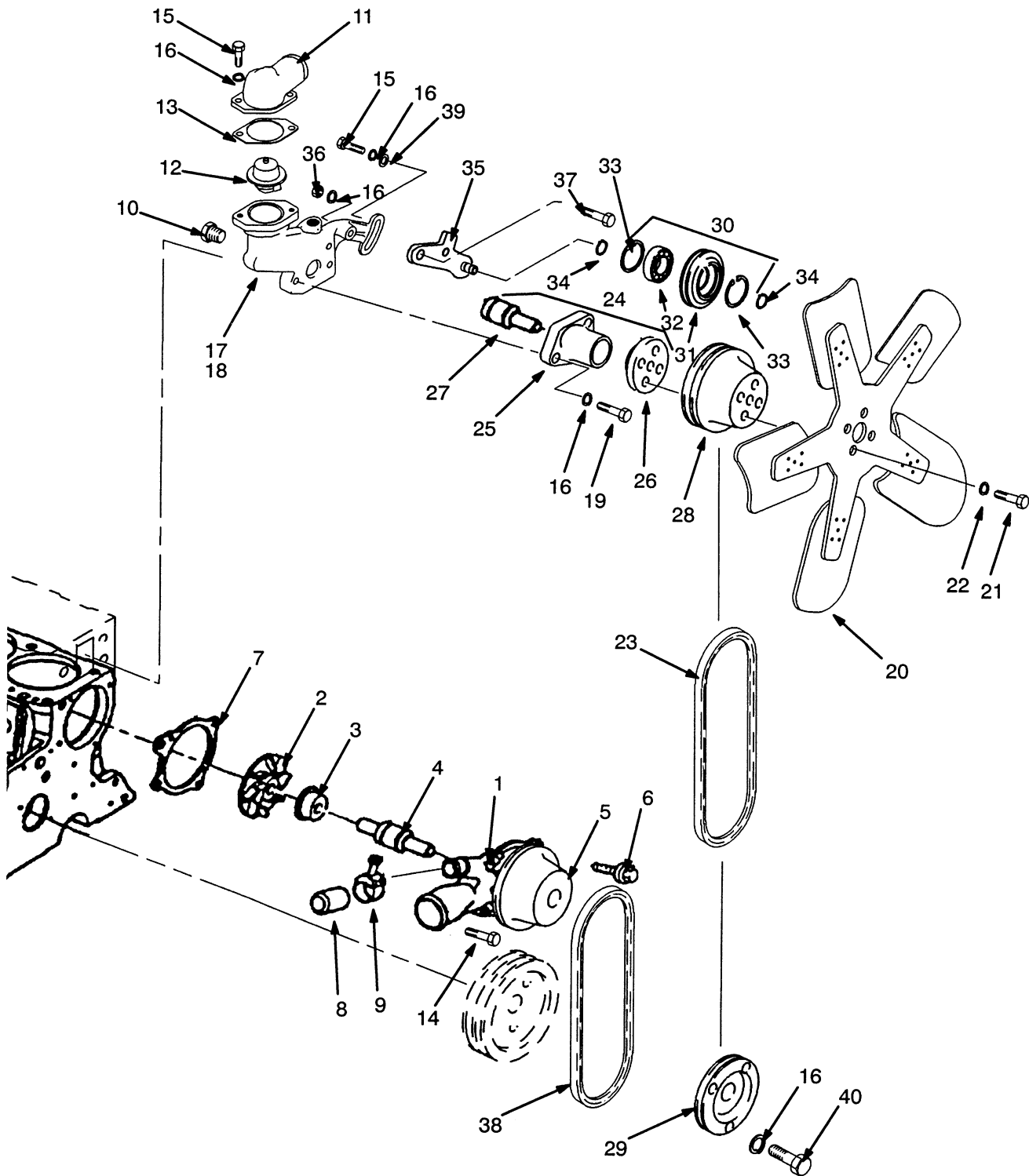
## ELECTRICAL

### GASOLINE AND LPG 3.0L

**KEY:**  
**A:** 1996  
**B:** 1997  
**C:** 1998

REF	PART NO.	NAME OF PART	QTY			REF	PART NO.	NAME OF PART	QTY		
			A	B	C				A	B	C
	<b>b</b>	1380583 Engine .....	1	..	..	12	1371237 Bolt .....		4	4	..
	<b>c</b>	1393580 Engine .....	1	..	..	13	1378318 Bracket (Top) .....		1	1	1
	<b>d</b>	1453580 Engine .....	..	1	..	14	1378319 Bracket (Bottom) .....		1	1	1
1		281844 Spark Plug .....	4	4	4	15	<b>a</b> 159974 Washer .....		1	1	1
2		1330467 Gasket .....	1	1	1	16	1331349 Screw .....		1	1	1
3		274247 Clamp .....	1	1	1	17	..... Distributor .....		1	1	1
4		1331329 Wire Assembly .....	1	1	1			☞ Figure 140			
5		1335827 Bolt .....	2	2	..	18	..... Starter .....		1	1	1
5	<b>d</b>	1455602 Bolt .....	..	2	..			☞ Figure 151			
6		15134 Washer .....	2	2	2						
7		1335828 Retainer .....	1	1	1	<b>a</b>	Included In Short Block 1393427				
8		1331331 Ignition Coil .....	1	1	1	<b>b</b>	Last Used On S/N D177B-34696				
9		1337665 Wire Assembly .....	1	1	1	<b>c</b>	Used On S/N D177B-34697 Thru S/N D177B-39730				
10		1337666 Spark Plug Harness .....	1	1	1	<b>d</b>	First Used On S/N D177B-39731				
11		1374323 Nut .....	4	4	..						

## COOLING (Figure 31) GASOLINE AND LPG 3.0L



**COOLING**  
**GASOLINE AND LPG 3.0L**

**KEY:**

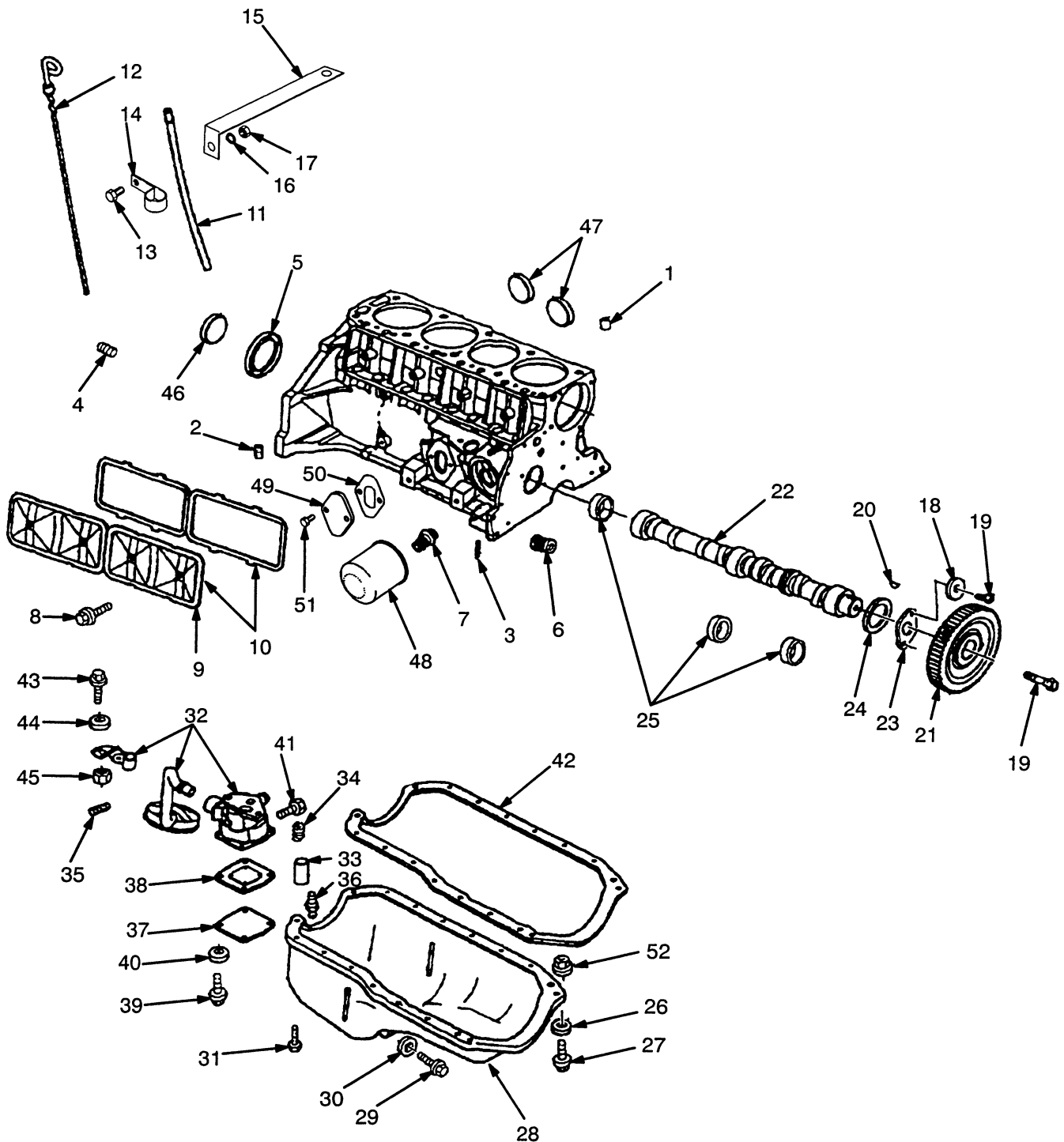
**A: 1996**

**B: 1997**

**C: 1998**

REF	PART NO.	NAME OF PART	QTY			REF	PART NO.	NAME OF PART	QTY		
			A	B	C				A	B	C
	<b>b</b>	1380583 Engine .....	1	..	..	23	191845	V-Belt .....	1	1	1
	<b>c</b>	1393580 Engine .....	1	..	..	24	1375604	Drive (Fan) .....	1	1	1
	<b>d</b>	1453580 Engine .....	..	1	..	24	1456071	Drive (Fan) Sub assembly	1	1	1
1	<b>a</b>	..... Water Pump .....	1	1	1	25	.....	Housing .....	1	1	1
2	<b>a</b>	..... Impeller .....	1	1	1	26	1360215	Hub .....	1	1	1
3	<b>a</b>	..... Seal .....	1	1	1	27	1358532	Bearing .....	1	1	1
4	<b>a</b>	..... Bearing .....	1	1	1	28	1371524	Fan Pulley .....	1	1	1
5	<b>a</b>	..... Pulley .....	1	1	1	29	1375196	Crankshaft Pulley .....	1	1	1
6		221455 Capscrew .....	2	2	2	30	1359103	Idler Assembly .....	1	1	1
7	<b>a</b>	1330456 Gasket .....	1	1	1	31	1359102	Pulley .....	1	1	1
8		149929 Cap .....	1	1	1	32	1479128	Bearing .....	1	1	1
9		1335224 Clamp .....	1	1	1	33	12928	Snap Ring .....	2	2	2
10		14386 Plug .....	1	1	1	34	54123	Snap Ring .....	2	2	2
11		1317468 Outlet .....	1	1	1	35	1359100	Bracket .....	1	1	1
12		1450696 Thermostat (180° F) .....	1	1	1	36	15056	Nut .....	1	1	1
13		1330725 Gasket .....	1	1	1	37	16379	Capscrew .....	1	1	1
14		18508 Capscrew .....	2	2	2	38	188643	V-Belt (Pump) .....	1	1	1
15		16805 Capscrew .....	3	3	3	39	296421	Washer .....	1	1	1
16		15156 Lockwasher .....	10	10	10	40	16814	Capscrew .....	3	3	3
17		1371582 Thermostat Housing .....	1	1	1		<b>a</b>	Included In Water Pump Kit 1383997			
18		264159 Adhesive .....	AR	AR	AR		<b>b</b>	Last Used On S/N D177B-34696			
19		18538 Capscrew .....	3	3	3		<b>c</b>	Used On S/N D177B-34697 Thru S/N D177B-39730			
20		1375642 Fan .....	1	1	1		<b>d</b>	First Used On S/ND177B-39731			
21		16825 Capscrew .....	4	4	4						
22		15155 Lockwasher .....	4	4	4						

## CAMSHAFT AND OIL PAN (Figure 32) GASOLINE AND LPG 3.0L



**CAMSHAFT AND OIL PAN  
GASOLINE AND LPG 3.0L**

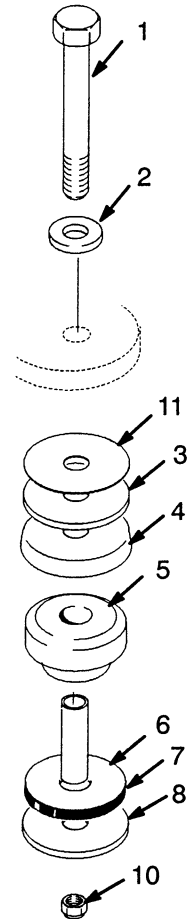
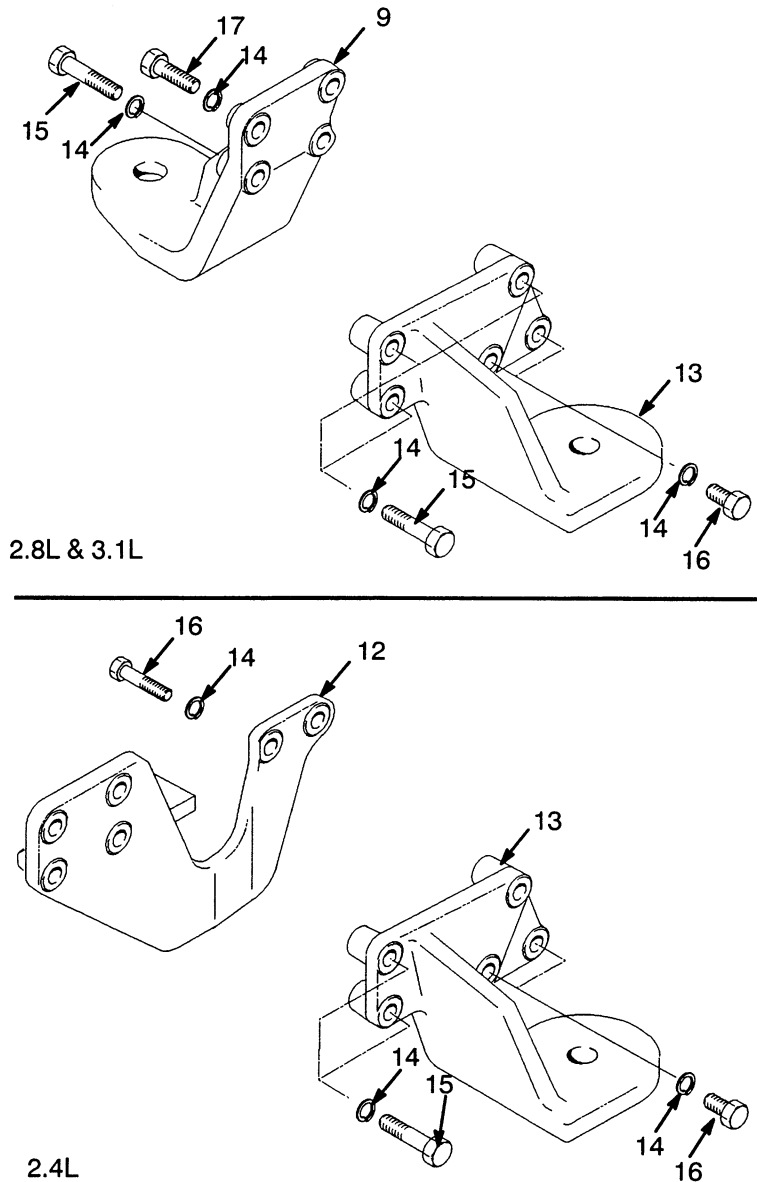
**KEY:**

A: 1996  
B: 1997  
C: 1998

QTY						QTY					
REF	PART NO.	NAME OF PART	A	B	C	REF	PART NO.	NAME OF PART	A	B	C
	b	1380583 Engine .....	1	..	..	28	1360759	Oil Pan .....	1	1	1
	c	1393580 Engine .....	1	..	..	29	308624	Screw .....	1	1	1
	d	1453580 Engine .....	..	1	..	30	388305	Gasket .....	1	1	1
1	a	1354814 Pump Shaft Bearing .....	1	1	1	31	16374	Capscrew .....	2	2	2
2	a	1331341 Plug .....	1	1	1	32	1312813	Oil Pump .....	1	1	1
3	a	159977 Pin .....	8	8	8	33	145176	Oil Pressure Valve .....	1	1	1
4	a	1335499 Pin .....	2	2	2	34	145177	Spring .....	1	1	1
5	a	164017 Plug .....	1	1	1	35	1330453	Pin .....	1	1	1
6	a	1375952 By-pass Valve .....	1	1	1	36	177563	Plug .....	1	1	1
7		159942 Fitting .....	1	1	1	37	149846	Cover .....	1	1	1
8		149976 Bolt .....	4	4	4	38	149847	Gasket .....	1	1	1
9		244933 Cover .....	1	1	1	39	16709	Screw .....	4	4	4
10		388322 Gasket .....	1	1	1	40	15154	Lockwasher .....	4	4	4
10	c	1457062 Sealant .....	1	1	1	41	221453	Capscrew .....	3	3	3
11		1458089 Tube .....	1	1	1	42	1330452	Gasket .....	1	1	1
12		1335222 Dipstick .....	1	1	1	43	221420	Capscrew .....	1	1	1
13	e	292500 Capscrew .....	1	1	1	44	388316	Washer .....	1	1	1
14	e	132131 Clamp .....	1	1	1	45	145641	Nut .....	1	1	1
15	ef	1376763 Brace .....	1	1	1	46	a	169719 Plug .....	1	1	1
16	e	292680 Lockwasher .....	1	1	1	47	a	169718 Plug .....	2	2	2
17	e	136687 Nut .....	1	1	1	48	127644	Oil Filter .....	1	1	1
18		15923 Washer .....	2	2	2	49	145949	Cover .....	1	1	1
19		133469 Capscrew .....	3	3	3	50	149934	Gasket .....	1	1	1
20		7882 Key .....	1	1	1	51	199566	Capscrew .....	2	2	2
21		244927 Gear .....	1	1	1	52	15055	Nut .....	2	2	2
21	c	149898 Gear .....	1	1	1						
22		1362070 Camshaft .....	1	1	1	a	Included In Short Block 1331338 & 1393427				
23		1356838 Thrust Plate .....	1	1	1	b	Last Used On S/N D177B-34696				
24		1324006 Spacer .....	1	1	1	c	Used On S/N D177B-34697 Thru S/N D177B-39730				
25	a	149819 Bearing .....	3	3	3	d	First Used On S/N D177B-39731				
26		15154 Lockwasher .....	14	14	14	e	Last Used On S/N D177B-45156				
27		1376876 Bolt .....	14	14	14	f	Service Use Only				



## ENGINE MOUNT (Figure 33) DIESEL

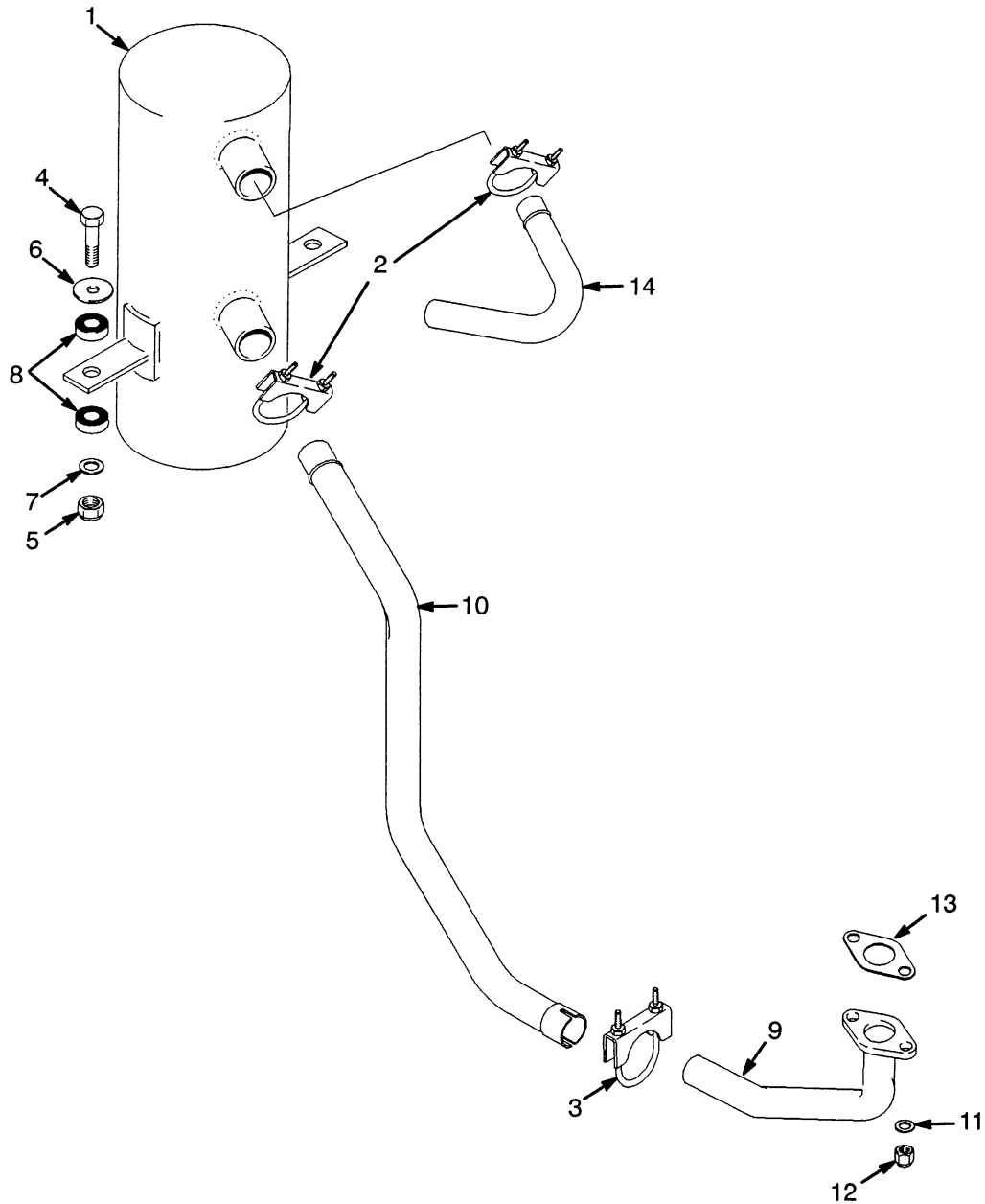


### KEY:

A: 2.4L Engine  
B: 2.8L & 3.1L Engine

REF	PART NO.	NAME OF PART	QTY		REF	PART NO.	NAME OF PART	QTY	
			A	B				A	B
1	293658	Capscrew	2	2	10	300937	Nut	2	2
2	300932	Washer	2	2	11	1351017	Spacer	AR	AR
3	340796	Washer	2	2	12	1335981	Bracket (LH)	1	..
4	1351098	Cup	2	2	13	1335983	Bracket (RH)	1	1
5	1351096	Isolator	2	2	14	292682	Lockwasher	10	9
6	1351061	Spacer	2	2	15	1329259	Capscrew	2	5
7	1351060	Bumper	2	2	16	309740	Capscrew	8	2
8	300939	Washer	2	2	17	1329258	Capscrew	..	2
9	1339743	Bracket (LH)	..	1					

**EXHAUST (Figure 34)**  
**DIESEL 2.4L**

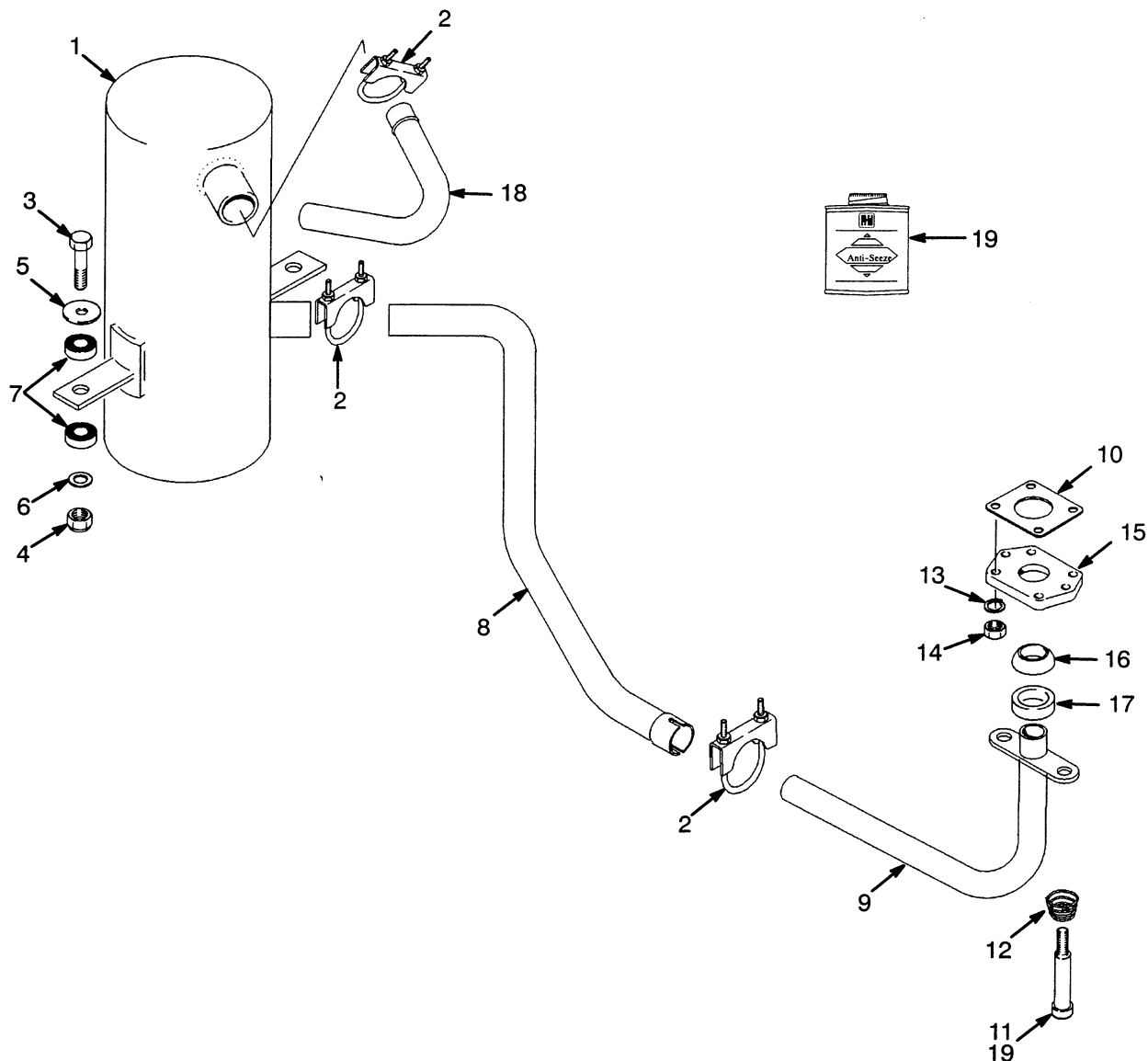


REF	PART NO.	NAME OF PART	QTY	REF	PART NO.	NAME OF PART	QTY
1	1338282	Muffler .....	1	9	1339328	Pipe .....	1
1 <sup>a</sup>	1350261	Muffler .....	1	10	1347128	Tube .....	1
2	68968	Clamp .....	1	11	292682	Lockwasher .....	2
3	195769	Clamp .....	1	12	303118	Nut .....	2
4	292517	Capscrew .....	2	13	308995	Gasket .....	1
5	316826	Nut .....	2	14	1338276	Pipe .....	1
6	1351176	Washer .....	2				
7	320159	Washer .....	2				
8	1351177	Spacer .....	4				

<sup>a</sup> Type DS

## EXHAUST (Figure 35)

DIESEL 2.8L & 3.1L



REF	PART NO.	NAME OF PART	QTY
1	1338278	Muffler .....	1
1 <sup>a</sup>	1350260	Muffler .....	1
2	68968	Clamp .....	3
3	292517	Capscrew .....	2
4	316826	Nut .....	2
5	1351176	Washer .....	2
6	320159	Washer .....	2
7	1351177	Spacer .....	4
8 <sup>b</sup>	1374603	Pipe .....	1
8 <sup>c</sup>	1383013	Pipe .....	1
9 <sup>b</sup>	1343471	Tube .....	1
9 <sup>c</sup>	1374604	Tube .....	1
10	1335954	Gasket .....	1

REF	PART NO.	NAME OF PART	QTY
11	1337118	Capscrew .....	2
12	1335898	Spring .....	2
13	292682	Lockwasher .....	4
14	136692	Nut .....	4
15	1343466	Adaptor .....	1
16	1338268	Seal .....	1
17	1338264	Spacer .....	1
18	1338276	Pipe .....	1
19	251979	Lubricant .....	AR

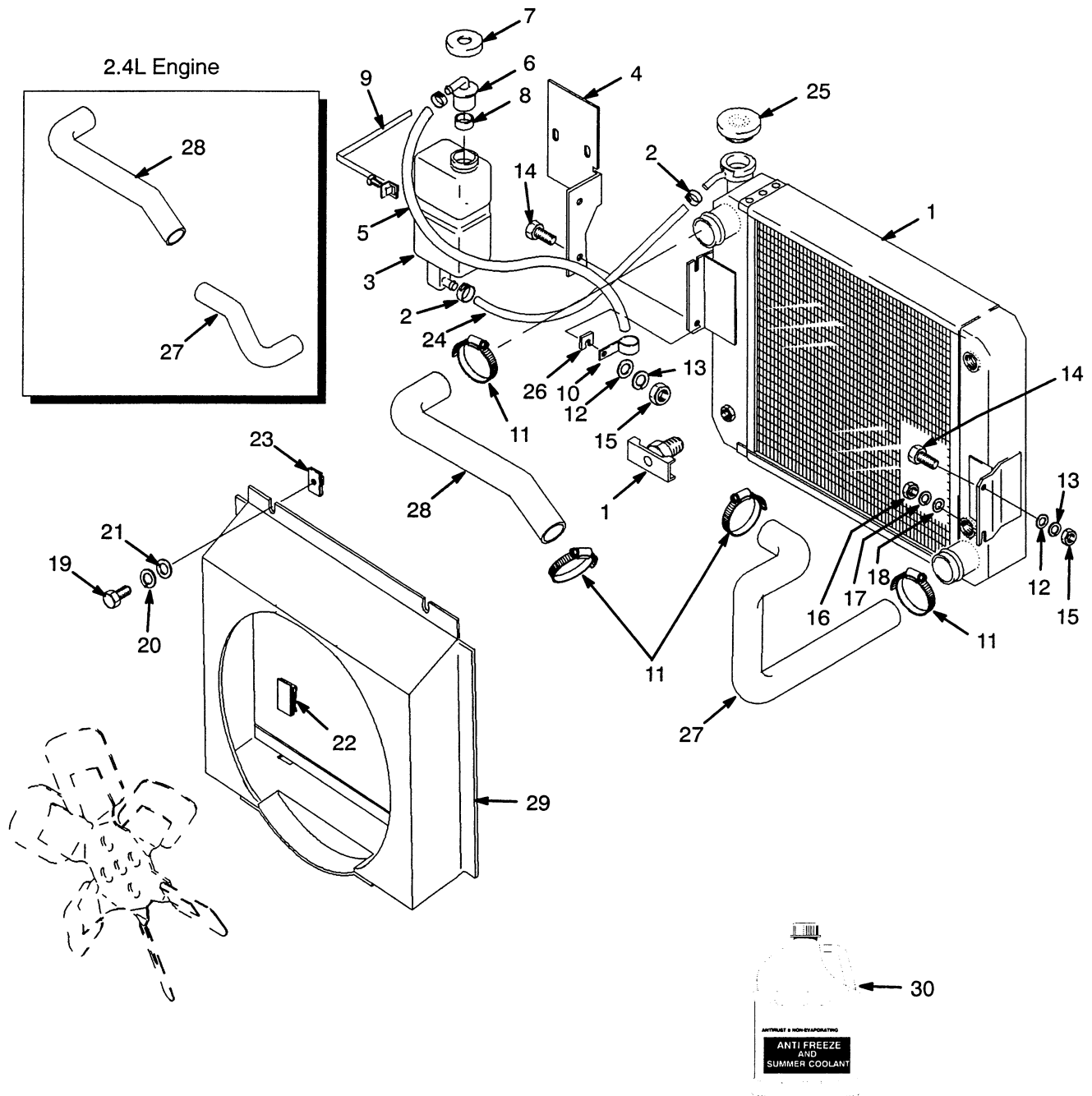
<sup>a</sup> Type DS

<sup>b</sup> Last Used On S/N D177B-16011

<sup>c</sup> First Used On S/N D177B-16012

## This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

## RADIATOR AND HOSES (Figure 36) DIESEL



## RADIATOR AND HOSES DIESEL

**KEY:**

**A:** 2.4L

**B:** 2.8L & 3.1L

REF	PART NO.	NAME OF PART	QTY		REF	PART NO.	NAME OF PART	QTY	
			A	B				A	B
1	1337002	Radiator (10 Fins/Inch) .....	1	1	18	320158	Washer .....	1	1
1 <sup>a</sup>	1343618	Radiator (6.5 Fins/Inch) .....	1	1	19	302235	Screw .....	2	2
1	1357717	Oil Cooler .....	1	1	20	1347076	Washer .....	2	2
1	1357721	Draincock .....	1	1	21	292678	Lockwasher .....	2	2
2	168718	Clamp .....	2	2	22	1329271	Clip .....	2	2
3	1347026	Reservoir .....	1	1	23	1329272	Nut .....	2	2
4	1347072	Bracket .....	1	1	24	1359580	Tube .....	1	1
5	1457312	Hose .....	1	1	25	1352140	Radiator Cap .....	1	1
6	345453	Outlet .....	1	1	26	1331152	Shim .....	AR	AR
7	345454	Cap .....	1	1	27	1361586	Hose (Lower) .....	1	..
8	336550	Bushing .....	1	1	27	1361627	Hose (Lower) .....	..	1
9	1345825	Strap .....	1	1	28	1339655	Hose (Upper) .....	1	..
10	173247	Clamp .....	1	1	28	1343453	Hose (Upper) .....	..	1
11	127045	Clamp .....	4	4	29	1339657	Shroud .....	1	..
12	292682	Lockwasher .....	3	3	29	1339690	Shroud .....	..	1
13	320159	Washer .....	3	3	30	3002338	Antifreeze (1 Gallon) .....	AR	AR
14	136985	Capscrew .....	3	3					
15	136692	Nut .....	3	3					
16	239503	Nut .....	1	1					
17	292681	Washer .....	1	1					

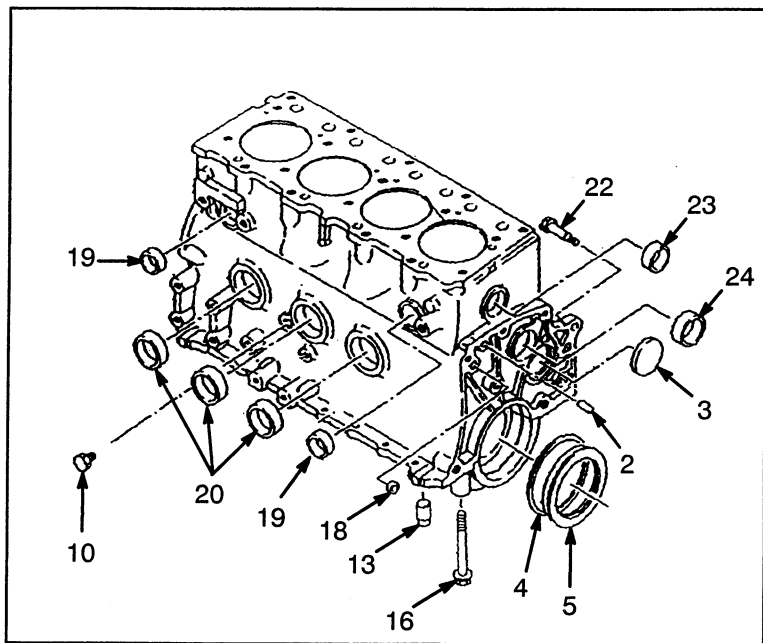
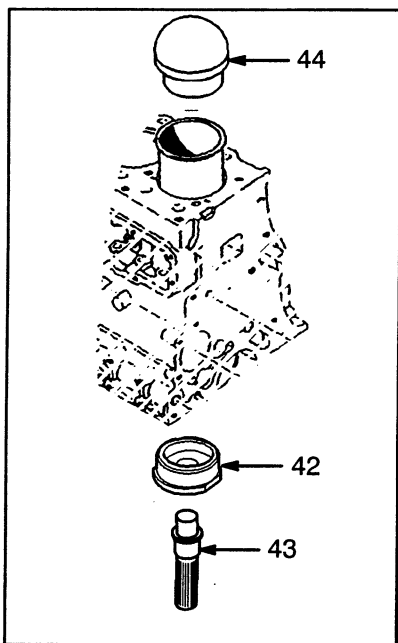
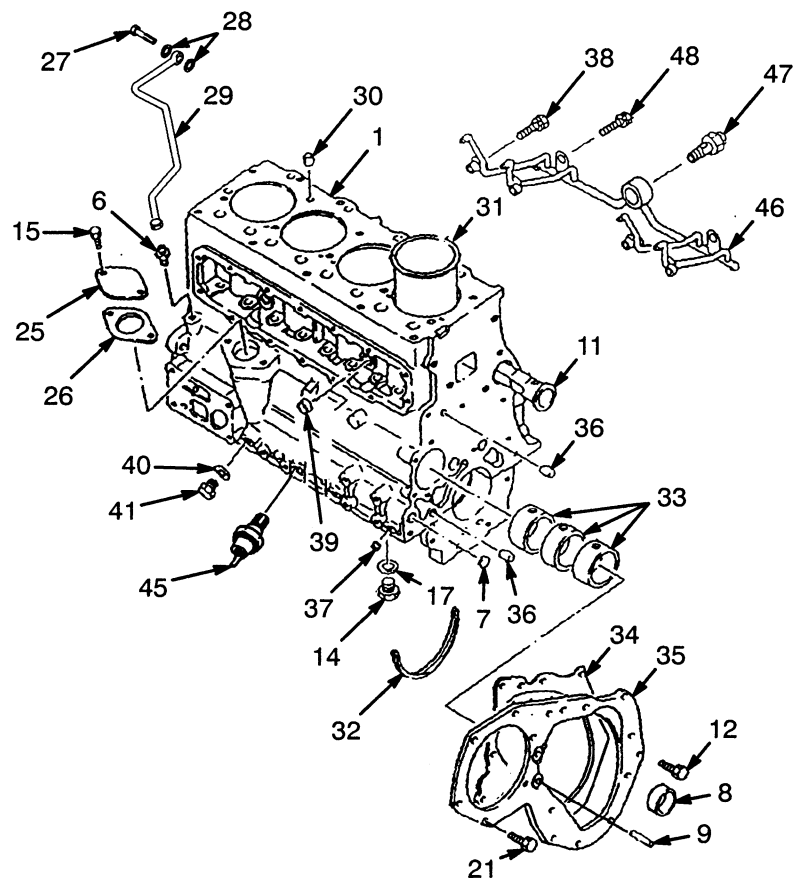
<sup>a</sup> Optional

<sup>b</sup> Last Used On S/N D177B-12749

<sup>c</sup> Used On S/N D177B-12750

## CYLINDER BLOCK (Figure 37)

DIESEL 2.4L



**CYLINDER BLOCK**

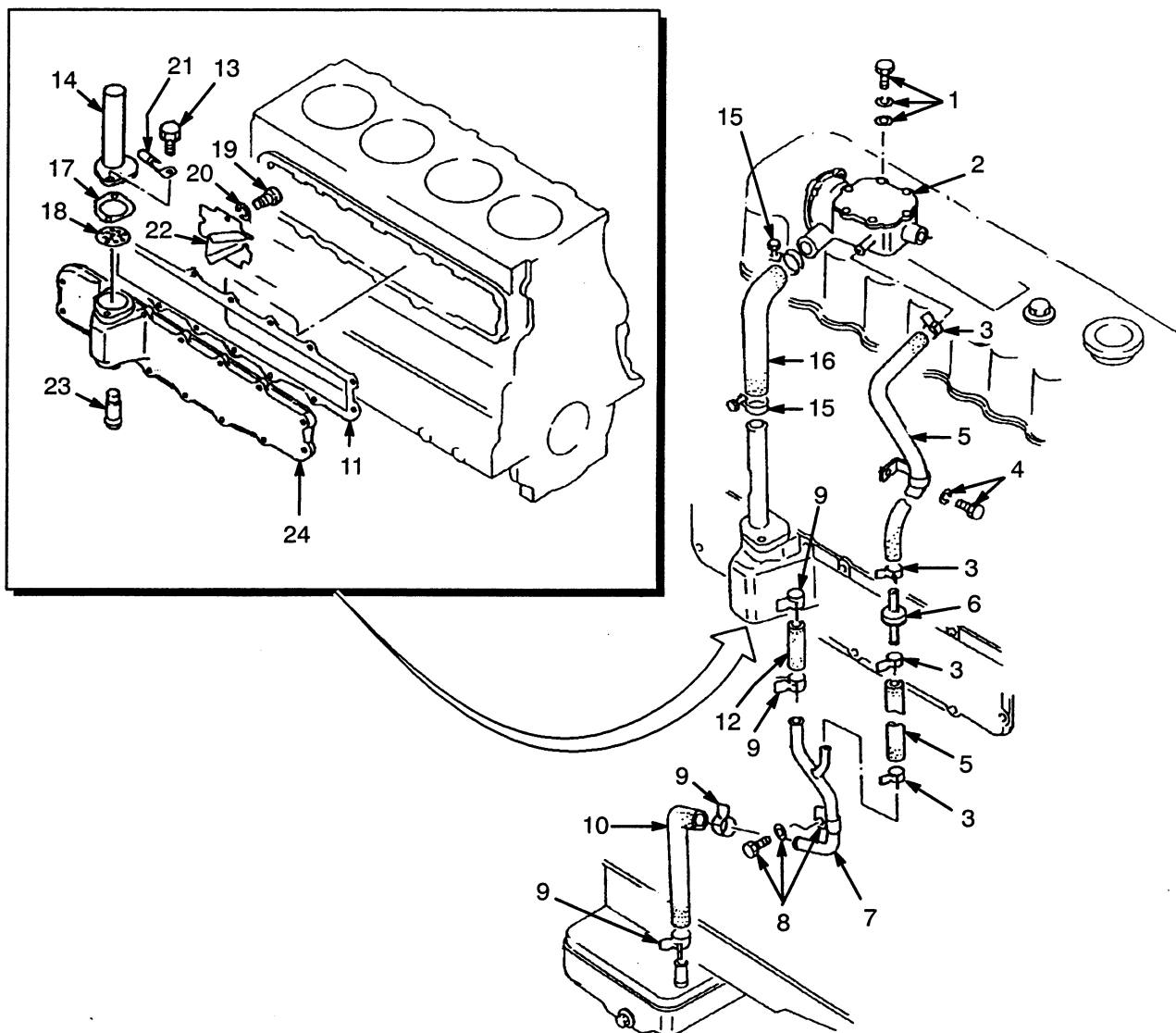
**DIESEL 2.4L**

REF	PART NO.	NAME OF PART	QTY	REF	PART NO.	NAME OF PART	QTY
	1335948	Engine .....	1	31	a	1456589 Liner (1-CX) .....	4
1	a	1360808 Short Block .....	1	31	a	1456590 Liner (2-AX) .....	4
2		324155 Pin .....	1	31	a	1456591 Liner (2-CX) .....	4
3		324144 Plug .....	1	31	a	1456592 Liner (3-AX) .....	4
4		324163 Spacer .....	1	31	a	1456593 Liner (3-CX) .....	4
5	bc	324164 Seal .....	1	31	a	1456594 Liner (4-AX) .....	4
6		324154 Fitting .....	1	31	a	1456595 Liner (4-CX) .....	4
7		323816 Cup .....	2	32	bc	324165 Seal .....	2
8		324278 Bearing .....	1	33		324143 Cam Bearing Kit .....	1
9		324153 Pin .....	2	34	bc	324152 Gasket .....	1
10		14385 Fitting .....	1	35		1361521 Plate .....	1
11		1361520 Water Duct .....	1	36	a	1361525 Pin .....	2
12		1338456 Capscrew .....	5	37		324146 Plug .....	2
13		324161 Pin .....	2	38		1361538 Bolt .....	4
14		348427 Plug .....	1	39		324138 Plug .....	2
15		1338780 Capscrew .....	16	39	a	323817 Plug .....	2
16	a	324169 Capscrew .....	10	40	b	324412 Gasket .....	1
17		348428 Gasket .....	1	41		324385 Plug .....	1
18	a	323818 Cup .....	1	42		320901 Remover (Liner) .....	1
19	a	324141 Cup .....	2	43		320902 Grip (Liner) .....	1
20	a	323815 Cup .....	3	44		320903 Tool (Liner) .....	1
21		324170 Capscrew .....	3	45		1329367 Switch Assembly .....	1
22		324173 Capscrew .....	1	45		340868 Oil Switch .....	1
23	a	..... Cup .....	1	45		1329369 Adapter .....	1
24	a	324140 Cup .....	1	46		1361535 Pipe .....	1
25		324156 Cover .....	1	47		1361536 Valve .....	1
26	bc	324157 Packing Seal .....	1	48		1361537 Bolt .....	2
27		324352 Bolt .....	1				
28	bc	324353 Gasket .....	2	a		Figure 41 & Figure 42 For Further Components For Short Block Assembly	
29		324351 Pipe .....	1	b		Included In Bottom Gasket Kit 346530	
30		1329318 Dowel .....	2	c		Included In Seal Kit 1457015	
31	a	1456588 Liner (1-AX) .....	4				



## EMISSION CONTROL (Figure 38)

### DIESEL

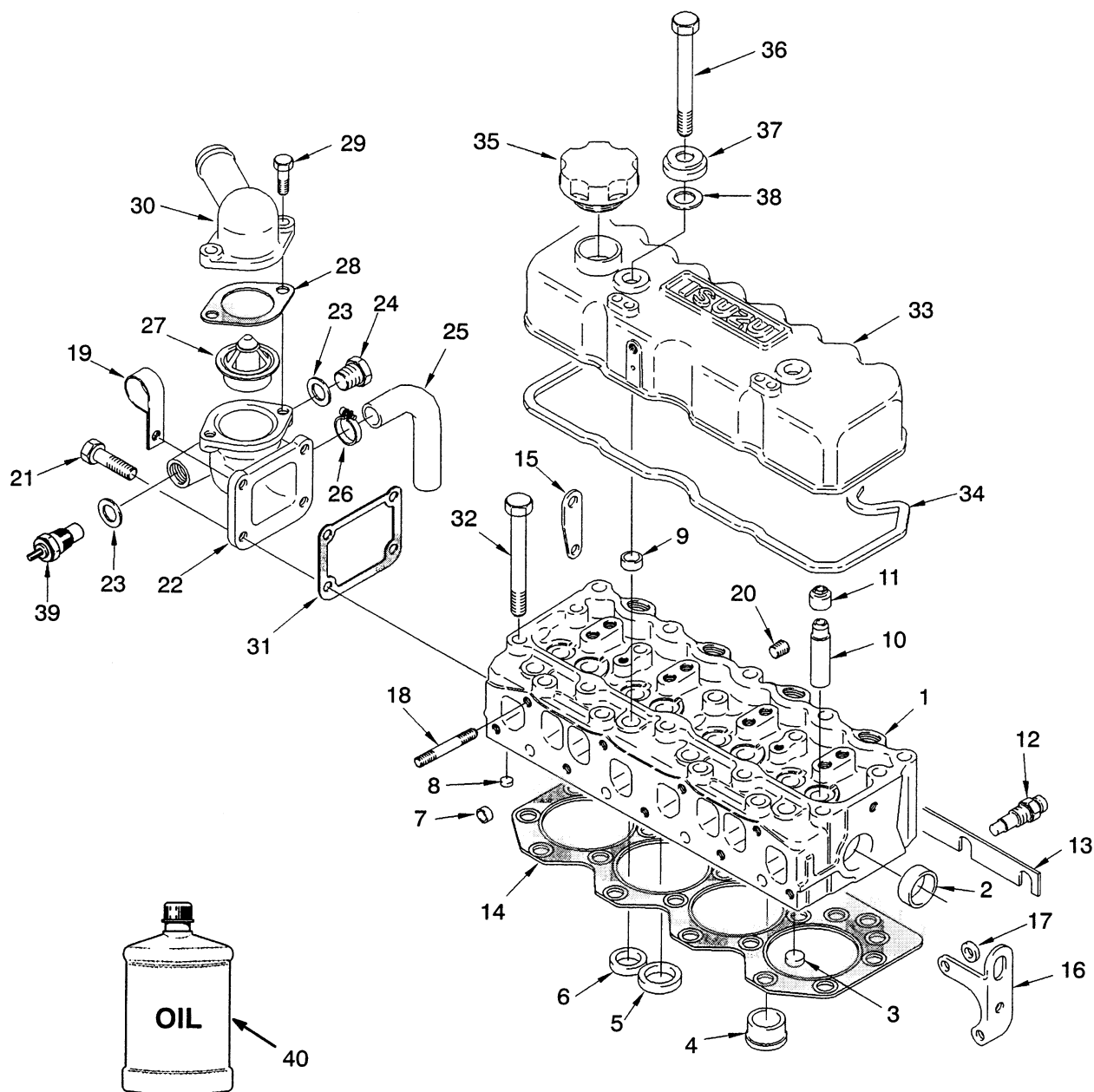


**EMISSION CONTROL  
DIESEL**

REF	PART NO.	NAME OF PART	QTY	REF	PART NO.	NAME OF PART	QTY
1	382509	Bolt .....	2	12	382494	Hose .....	1
1	292680	Washer .....	2	13	1361524	Bolt .....	2
1	382511	Washer .....	2	14	382493	Breather Pipe .....	1
2	382503	PVC Valve .....	1	15	382505	Clip .....	2
3	382502	Clip .....	4	16	382504	Hose .....	1
4	1361526	Bolt .....	1	17	1361522	Gasket .....	1
4	292681	Washer .....	1	18	382487	Baffle .....	1
5	1305789	Hose .....	2	19	1361523	Screw .....	2
6	382499	Check Valve .....	1	20	292679	Washer .....	2
7	382495	Connector .....	1	21	382488	Clip .....	1
8	324262	Bolt .....	1	22	382486	Baffle .....	1
8	292682	Washer .....	1	23	382491	Nipple .....	1
8	382508	Clip .....	1	24	388291	Cover .....	1
9	382498	Clip .....	4				
10	382497	Hose .....	1				
11	<sup>a</sup> 348442	Seal .....	1	<sup>a</sup>	Included In Seal Kit 1457015		

## CYLINDER HEAD (Figure 39)

DIESEL 2.4L

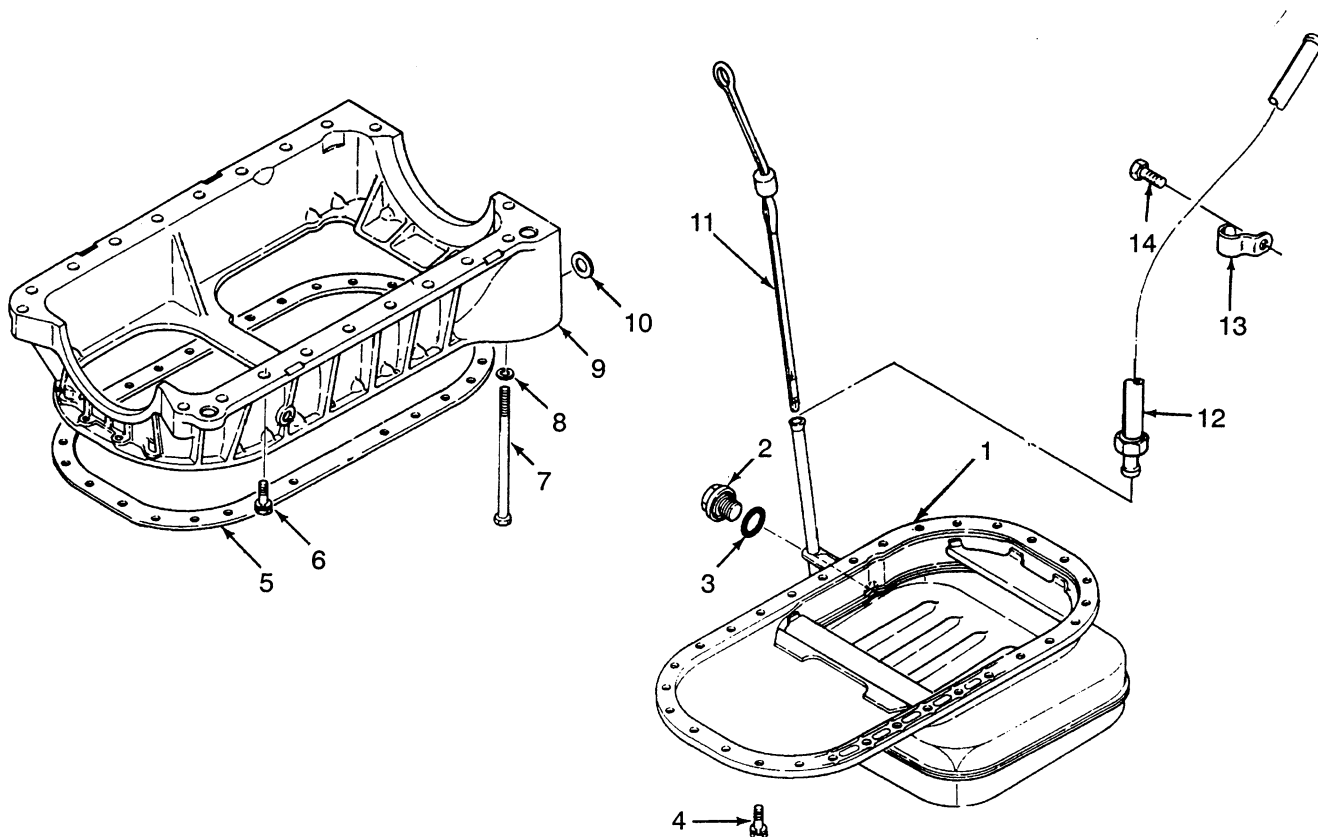


**CYLINDER HEAD  
DIESEL 2.4L**

REF	PART NO.	NAME OF PART	QTY	REF	PART NO.	NAME OF PART	QTY
1	323814	Cylinder Head .....	1	22	342741	Housing .....	1
2	323815	Cup .....	1	23	324375	Gasket .....	2
3	323816	Cup .....	4	24	324374	Plug .....	1
4	323824	Plug .....	4	25	373660	Hose .....	1
5	323820	Inlet valve Insert .....	4	26	130845	Clamp .....	2
6	323821	Exhaust valve Insert .....	4	27	324370	Thermostat (170° F) .....	1
7	323818	Cup .....	4	28	1334272	Gasket .....	1
8	323819	Plug .....	4	29	324373	Bolt .....	2
9	323817	Plug .....	5	30	324369	Outlet .....	1
10	323822	Valve Guide .....	8	31 <sup>a</sup>	1391232	Gasket .....	1
11 <sup>a</sup>	323823	Seal-Valve Stem Oil .....	8	32	1334663	Bolt .....	19
12	1360812	Glow Plug .....	4	33	1361509	Cover .....	1
13	324603	Connector .....	1	34 <sup>a</sup>	324133	Gasket .....	1
14	1361508	Gasket .....	1	35	354789	Cap .....	1
15	324435	Hanger (Front) .....	1	36	324166	Capscrew .....	2
16	324436	Hanger (Rear) .....	1	37	324135	Washer .....	2
17	324437	Spacer .....	2	38 <sup>a</sup>	324134	Gasket .....	2
18	324125	Stud (35 mm) .....	3	39	1369439	Temperature Switch .....	1
18	324126	Stud (40 mm) .....	3	40	3021238	Engine Oil (Bulk) .....	AR
18	324127	Stud (45 mm) .....	1	40	3021239	Engine Oil (55 Gallon) .....	AR
19	324382	Clamp .....	1	40	3021240	Engine Oil (12 Quart Case) ....	AR
20	324167	Plug .....	1				
21	324378	Bolt .....	4	<sup>a</sup>	Included In Seal Kit 1457015		

## CRANKCASE AND OIL PAN (Figure 40)

DIESEL 2.4L



REF	PART NO.	NAME OF PART	QTY
1	1361529	Oil Pan .....	1
2	324228	Plug .....	1
3 <sup>a</sup>	1329327	O-Ring .....	1
4	324246	Bolt .....	30
4	1329328	Bolt .....	2
5 <sup>ab</sup>	324245	Gasket .....	1
6	1369443	Bolt .....	2
6	1338456	Bolt .....	14
6	1334675	Bolt .....	2
7	324248	Bolt .....	2
8	292681	Lockwasher .....	2
9	324230	Crankcase .....	1
10	324233	Shim (0.30 mm) .....	AR
10	324234	Shim (0.35 mm) .....	AR
10	324235	Shim (0.40 mm) .....	AR
10	324236	Shim (0.45 mm) .....	AR

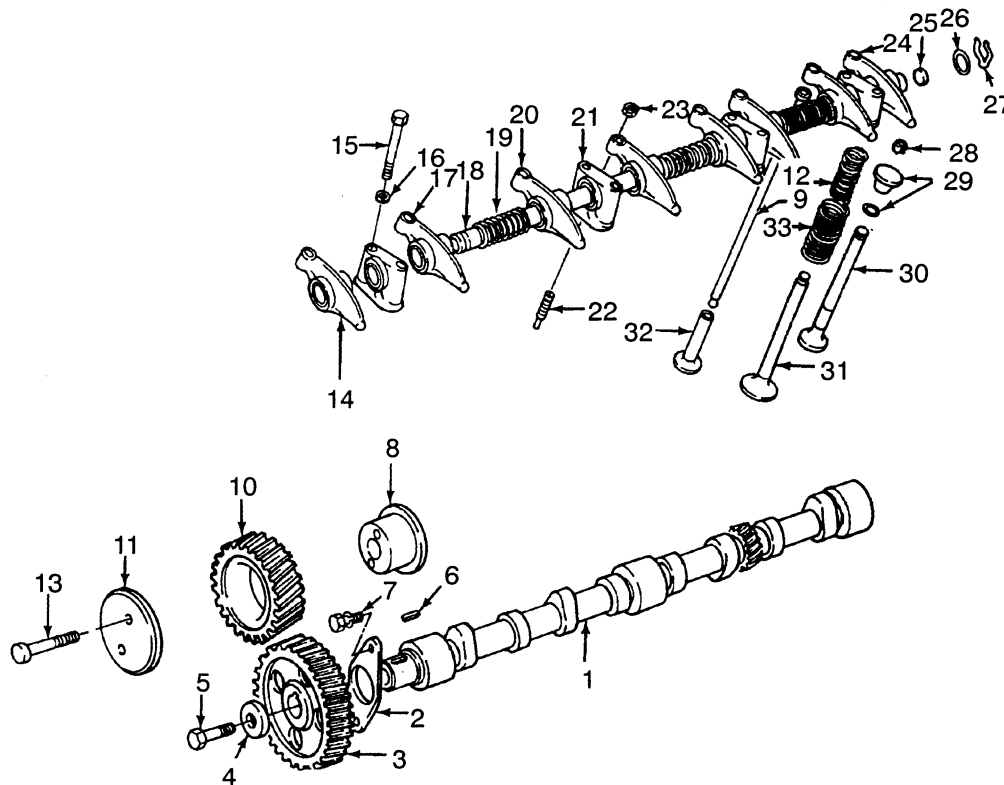
REF	PART NO.	NAME OF PART	QTY
10	324237	Shim (0.50 mm) .....	AR
10	324238	Shim (0.55 mm) .....	AR
10	324239	Shim (0.60 mm) .....	AR
10	324240	Shim (0.65 mm) .....	AR
10	324241	Shim (0.70 mm) .....	AR
10	324242	Shim (0.75 mm) .....	AR
10	324243	Shim (0.80 mm) .....	AR
10	324244	Shim (0.90 mm) .....	AR
10	348436	Shim (0.85 mm) .....	AR
11	348450	Dipstick .....	1
12	348451	Tube .....	1
13	348452	Clip .....	1
14	348453	Bolt .....	1

<sup>a</sup> Included In Bottom Gasket Kit 346530

<sup>b</sup> Included In Seal Kit 1457015

## CAMSHAFT AND VALVES (Figure 41)

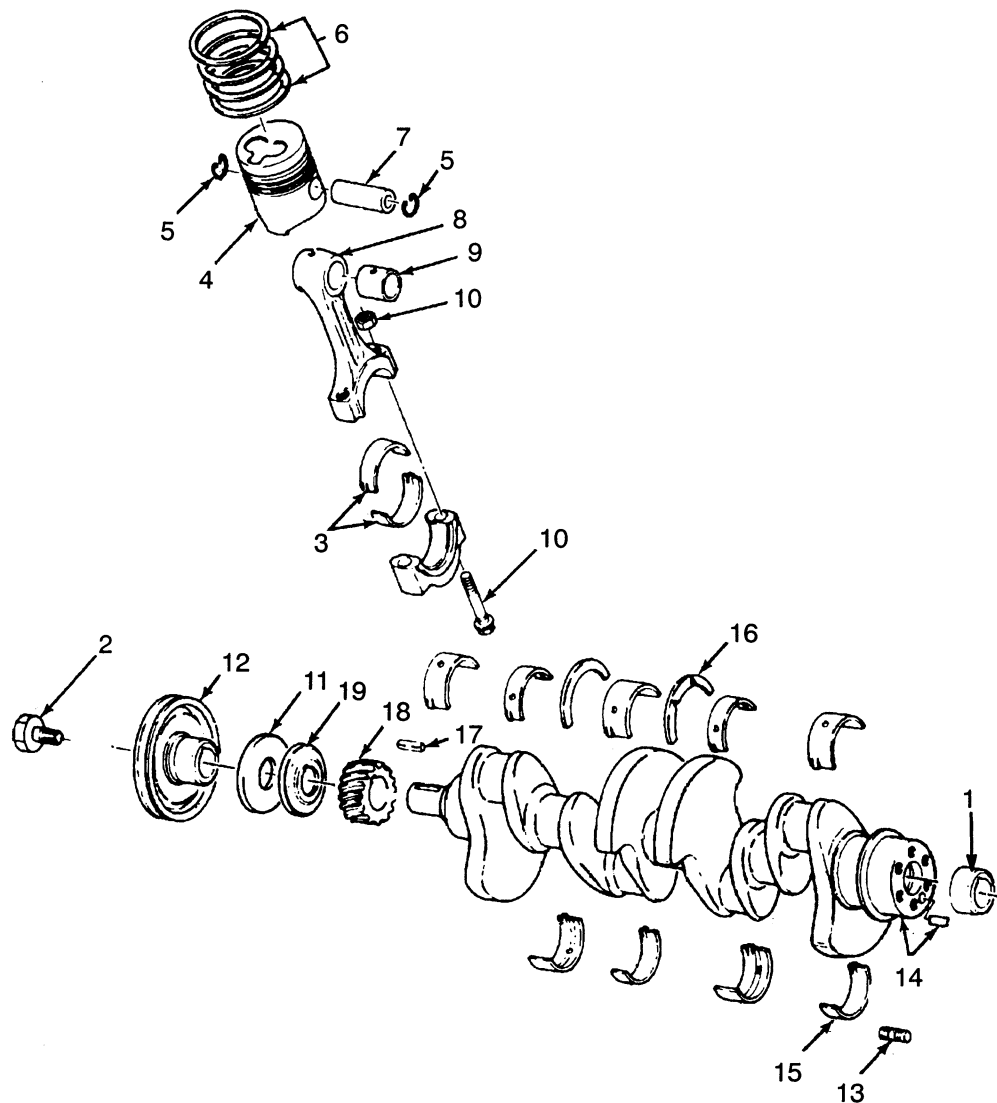
### DIESEL 2.4L



REF	PART NO.	NAME OF PART	QTY	REF	PART NO.	NAME OF PART	QTY
1	1352015	Camshaft .....	1	19	324318	Spring .....	3
2	1352016	Thrust Plate .....	1	20	324311	Rocker Arm .....	3
3	324291	Gear .....	1	21	324317	Bracket .....	4
4	324294	Washer .....	1	22	388280	Screw .....	8
5	324293	Bolt .....	1	23	324314	Nut .....	8
6	324292	Key .....	1	24	324310	Rocker Arm .....	1
7	324296	Bolt .....	2	25	324316	Plug .....	2
8	324297	Shaft .....	1	26	324321	Washer .....	2
9	324308	Push Rod .....	8	27	324319	Snap Ring .....	2
10	1361534	Gear (With Bushing) .....	1	28	324306	Keeper Valve .....	16
11	324299	Plate .....	1	29 <sup>a</sup>	1369039	Seat .....	8
12	324304	Spring (Inner) .....	8	29	324305	Seal Ring .....	1
13	373663	Capscrew .....	2	30	324302	Exhaust Valve .....	4
14	324309	Rocker Arm .....	1	31	324301	Inlet Valve .....	4
15	292509	Capscrew .....	8	32	324307	Tappet .....	8
16	324259	Washer .....	8	33	324303	Spring (Outer) .....	8
17	324312	Rocker Arm .....	3				
18	348462	Rocker Shaft .....	1	<sup>a</sup>	Included In Seal Kit 1457015		

## CRANKSHAFT AND PISTON (Figure 42)

DIESEL 2.4L



## CRANKSHAFT AND PISTON

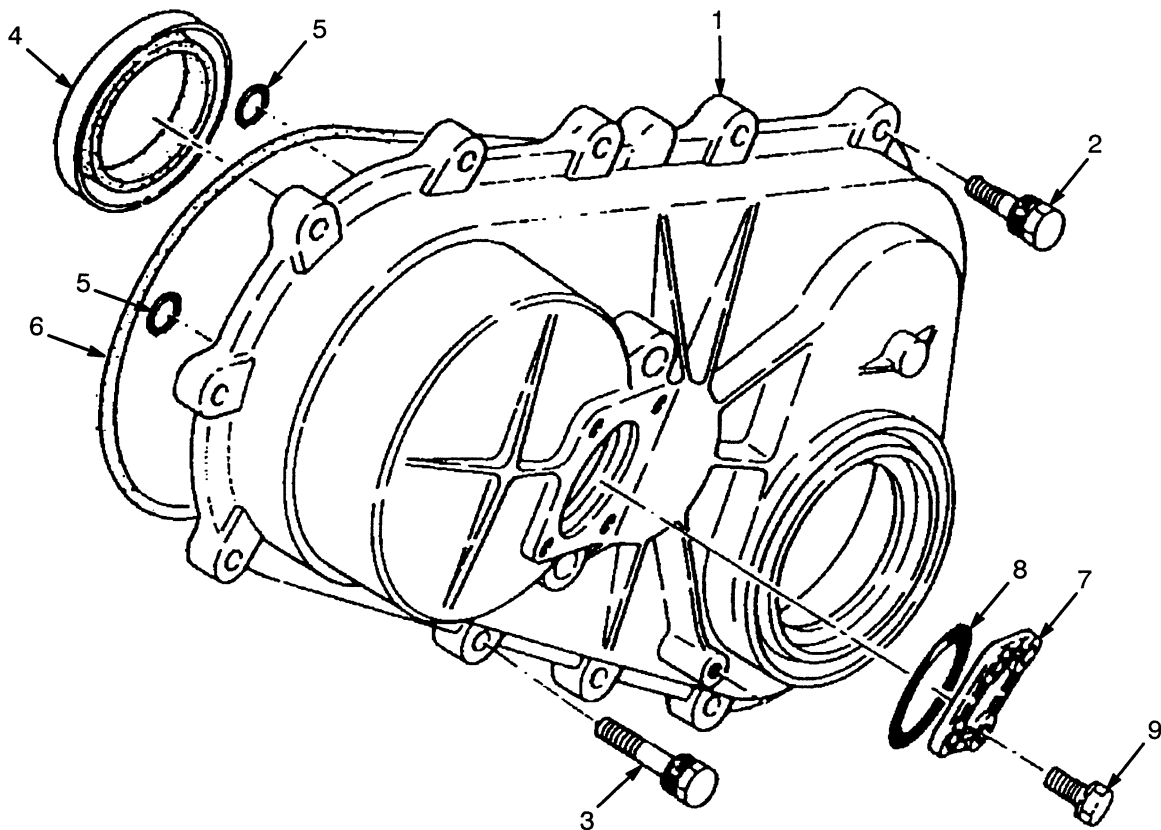
### DIESEL 2.4L

REF	PART NO.	NAME OF PART	QTY	REF	PART NO.	NAME OF PART	QTY
1	324278	Bearing .....	1	12	1361532	Pulley .....	1
2	1361533	Bolt .....	1	13	324222	Stud .....	2
3 <b>a</b>	362120	Rod Bearing (Standard) .....	4	14 <b>a</b>	362450	Crankshaft .....	1
3	362121	Rod Bearing (0.25 mm) .....	4	14 <b>a</b>	324277	Pin .....	1
3	362122	Rod Bearing (0.50 mm) .....	4	15 <b>a</b>	324264	Main Bearing (Standard) .....	1
4 <b>b</b>	1456565	Piston (Standard) .....	4	15	324265	Main Bearing (0.25 mm) .....	1
4 <b>c</b>	1456566	Piston (Standard) .....	4	15	324266	Main Bearing (0.50 mm) .....	1
5 <b>a</b>	324271	Snap Ring .....	8	16 <b>a</b>	1330003	Bearing .....	2
6 <b>a</b>	1360802	Ring Set (Standard) .....	4	17 <b>a</b>	348437	Tapered Key .....	1
7 <b>a</b>	1361531	Pin .....	4	18	324284	Gear .....	1
8 <b>a</b>	348454	Connector Rod .....	4	19	324285	Oil Slinger .....	1
9 <b>a</b>	1360804	Bushing .....	1				
10 <b>a</b>	1360805	Bolt .....	2	<b>a</b>	Included In Short Block 1360808		
10 <b>a</b>	1360806	Nut .....	2	<b>b</b>	With 'A' Or 'B' Stamp		
11	324288	Dust Slinger .....	1	<b>c</b>	With 'C' Or 'D' Stamp		



## TIMING GEAR (Figure 43)

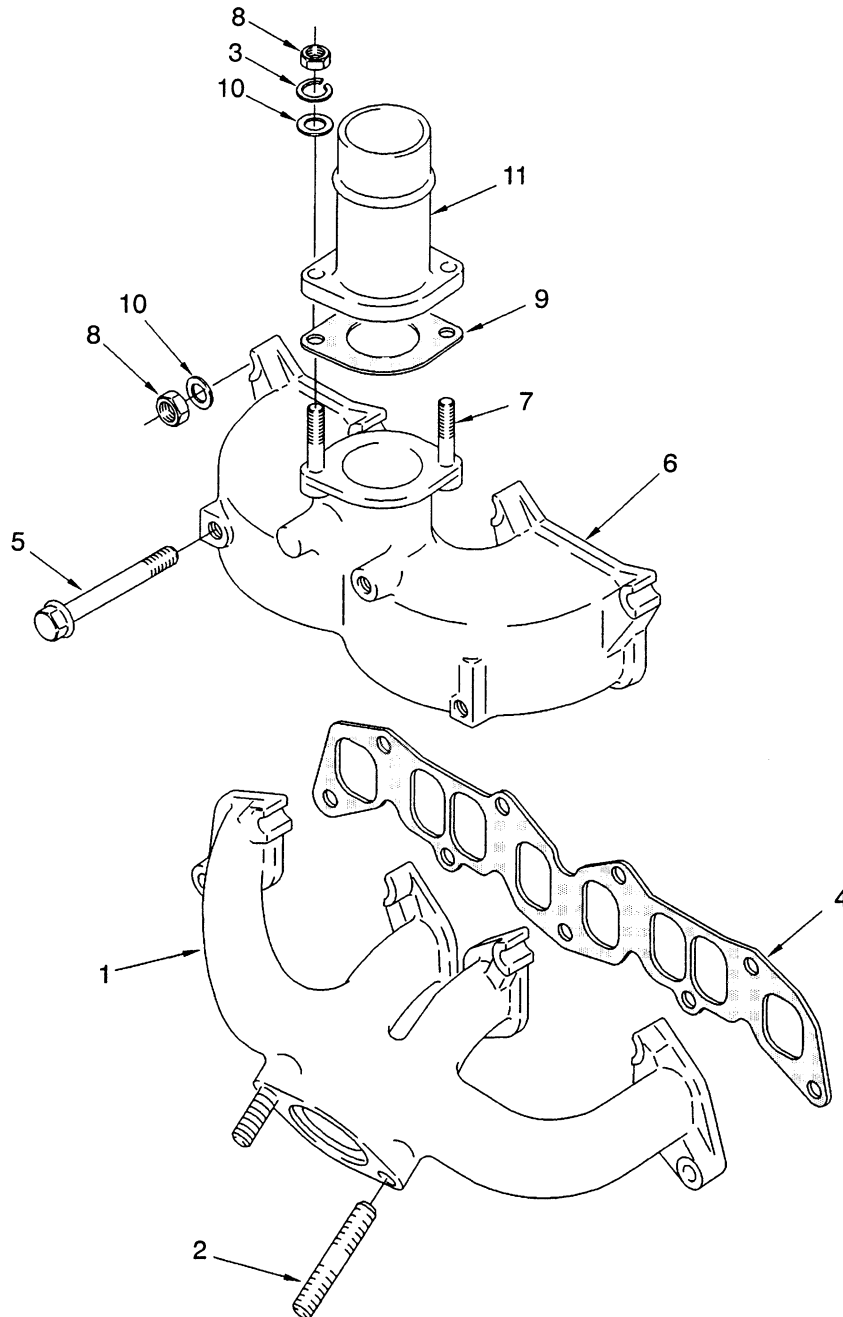
### DIESEL 2.4L



REF	PART NO.	NAME OF PART	QTY
1	1361527	Case .....	1
2	1337694	Bolt (45 mm) .....	7
3	1337696	Bolt (30 mm) .....	2
4 <b>ab</b>	1374645	Oil Seal .....	1
5 <b>b</b>	1363006	Gasket .....	2
6 <b>b</b>	1361528	Gasket .....	1

REF	PART NO.	NAME OF PART	QTY
7	1363003	Cover .....	1
8 <b>b</b>	1363004	Gasket .....	1
9	1361524	Bolt .....	4
<b>a</b> Included In Bottom Gasket Kit 346530			
<b>b</b> Included In Seal Kit 1457015			

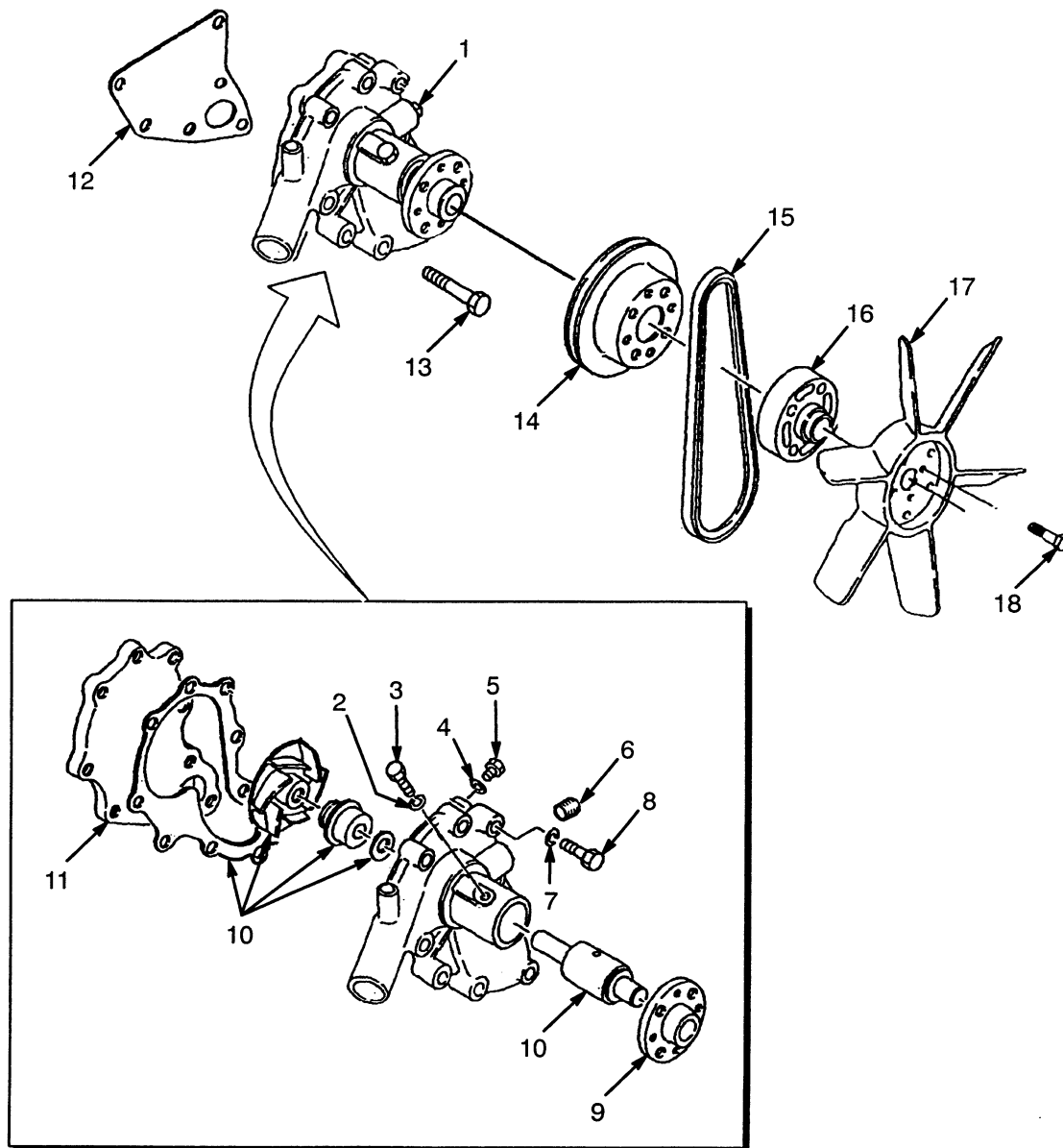
**MANIFOLD (Figure 44)**  
**DIESEL 2.4L**



REF	PART NO.	NAME OF PART	QTY	REF	PART NO.	NAME OF PART	QTY
1	324387	Exhaust Manifold .....	1	8	239503	Nut .....	6
2	324388	Stud .....	2	9 <sup>a</sup>	324397	Gasket .....	2
3	292681	Lockwasher .....	2	10	388293	Washer .....	6
4	1361541	Gasket .....	1	11	1361542	Pipe .....	1
5	1369443	Bolt (100 mm) .....	2				
6	373661	Inlet Manifold .....	1				
7	1329344	Stud .....	2				

<sup>a</sup> Included In Seal Kit 1457015

## WATER PUMP (Figure 45) DIESEL 2.4L



**WATER PUMP**

**DIESEL 2.4L**

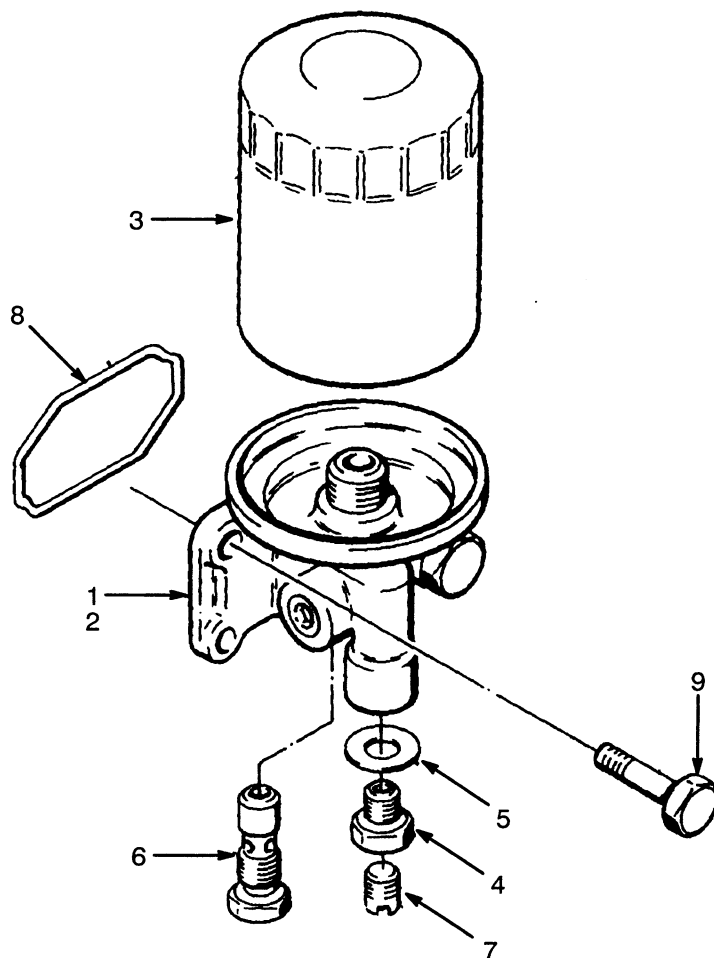
**KEY:**

**A: Water Pump 1375989 (Optional)**

**B: Water Pump 1309829**

REF	PART NO.	NAME OF PART	QTY		REF	PART NO.	NAME OF PART	QTY	
			A	B				A	B
1	1375989	Water Pump .....	1	..	10	<b>b</b> .....	Bearing Thrower .....	..	1
1	<b>a</b> 1309829	Water Pump (Optional) .....	..	1	11	1330979	Cover .....	..	1
2	292681	Lockwasher .....	..	1	12	<b>bc</b> 324361	Gasket .....	1	1
3	324642	Setscrew .....	..	1	13	324362	Capscrew (60 mm) .....	1	1
4	324648	Gasket .....	..	1	13	367339	Capscrew (65 mm) .....	1	1
5	324647	Bolt .....	..	1	14	1367649	Pulley .....	1	1
6	324167	Plug .....	..	1	15	1361139	Belt .....	1	1
7	292681	Lockwasher .....	..	3	16	324366	Spacer .....	1	1
8	324646	Bolt .....	..	3	17	1338472	Fan .....	1	1
9	324644	Mount .....	..	1	18	1338456	Bolt .....	4	4
10	<b>b</b> .....	Bearing Unit .....	..	1	<b>a</b> Remanufactured Water Pump 3002534 R				
10	<b>b</b> .....	Impeller .....	..	1	<b>b</b> Included In Repair Kit 1329336				
10	<b>b</b> .....	Packing Seal .....	..	1	<b>c</b> Included In Seal Kit 1457015				
10	<b>b</b> .....	Seal Unit .....	..	1					

## OIL FILTER (Figure 46) DIESEL 2.4L

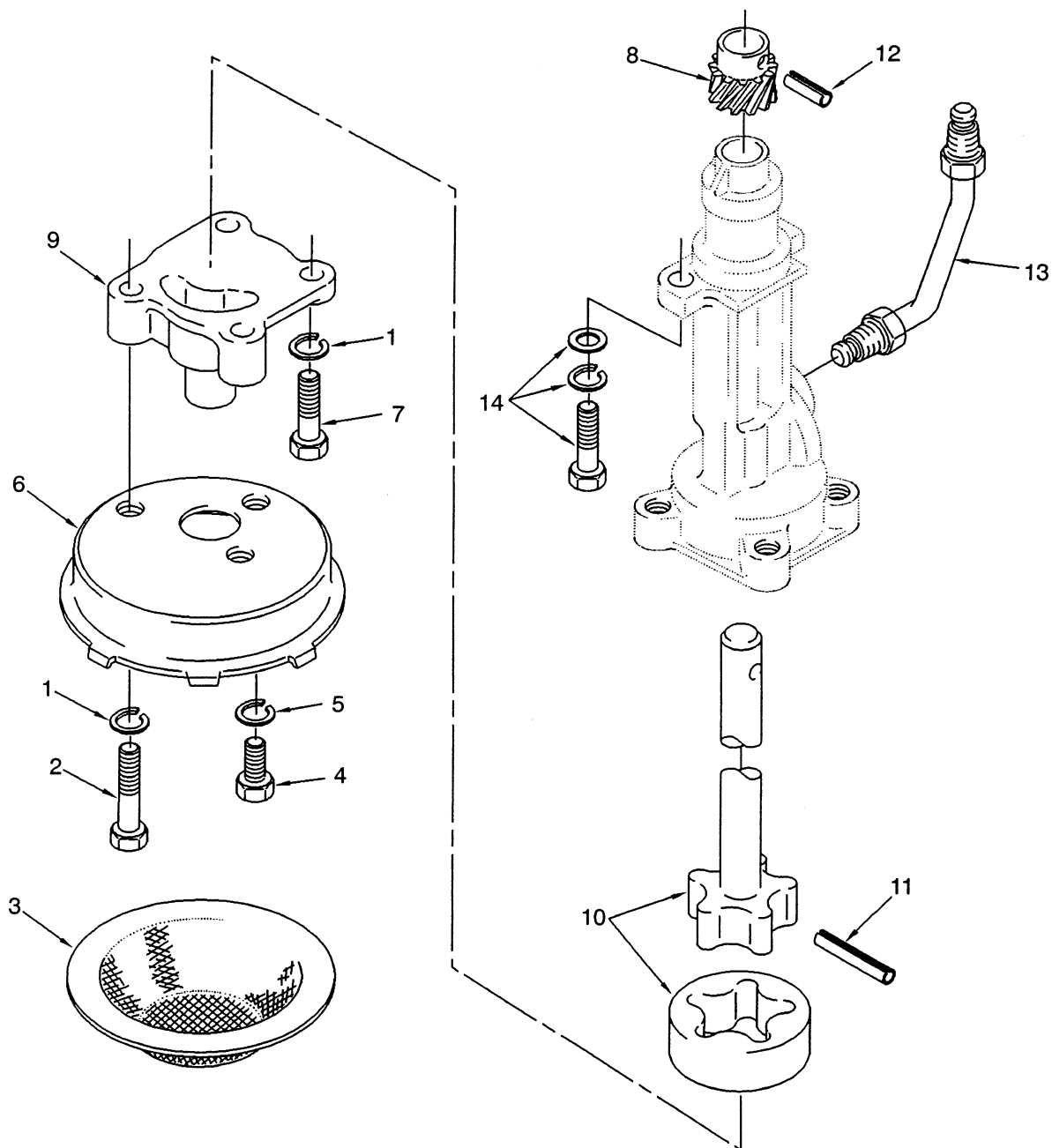


REF	PART NO.	NAME OF PART	QTY
1	374895	Filter .....	1
2	374896	Body .....	1
3	360974	Element .....	1
4	324340	Adapter .....	1
5	374899	Packing .....	1
6	324345	Valve .....	1

REF	PART NO.	NAME OF PART	QTY
7	324342	Plug .....	1
8 <sup>a</sup>	1374932	Packing .....	1
9	388294	Bolt .....	4

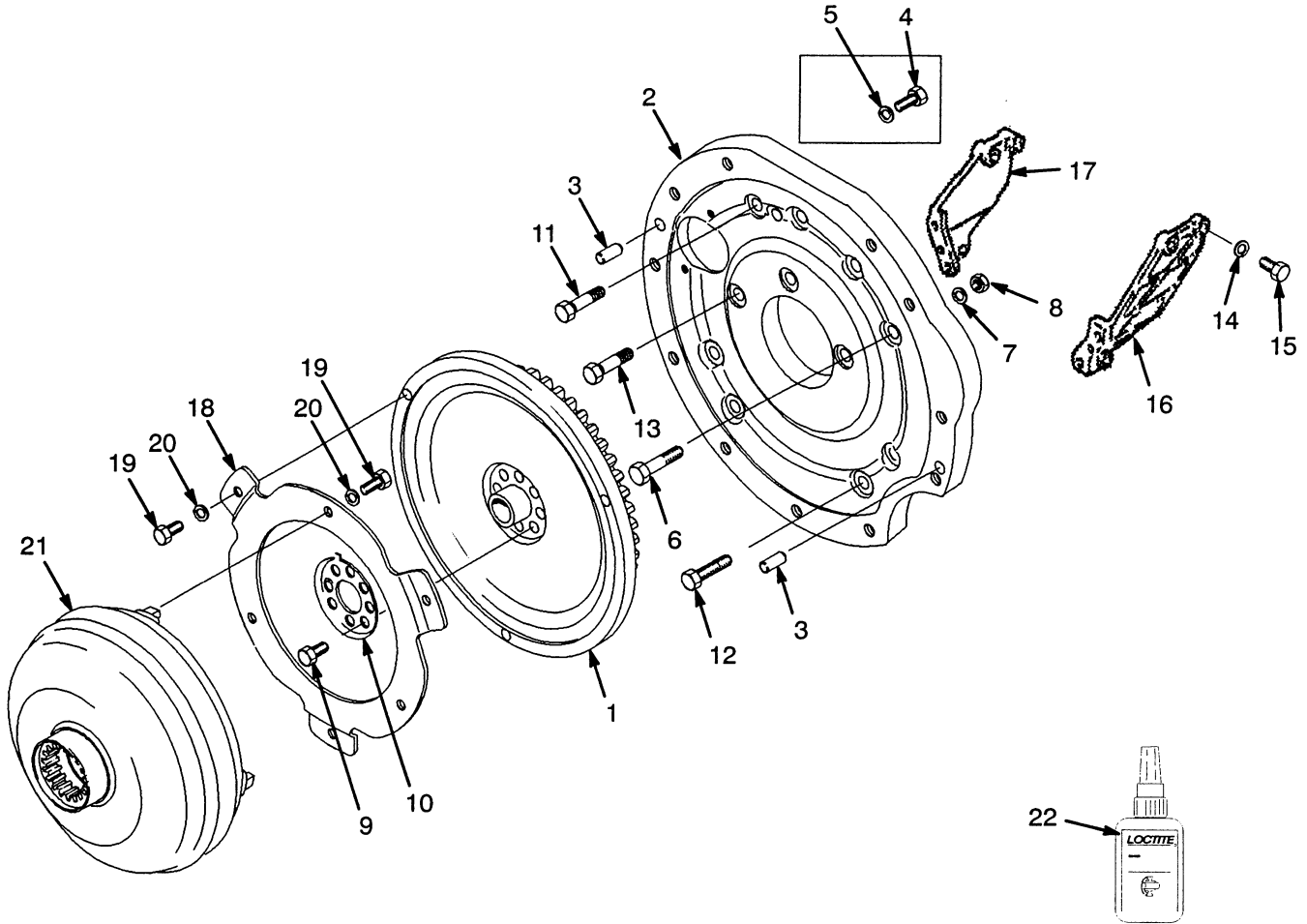
<sup>a</sup> Included In Seal Kit 1457015

**OIL PUMP (Figure 47)**  
**DIESEL 2.4L**



REF	PART NO.	NAME OF PART	QTY	REF	PART NO.	NAME OF PART	QTY
	1329314	Oil Pump .....	1	9	324257	Cover .....	1
1	292681	Lockwasher .....	4	10	388277	Rotor Assembly .....	1
2	388278	Bolt .....	2	11	324255	Pin .....	1
3	324260	Screen .....	1	12	324254	Pin .....	1
4	324262	Bolt .....	1	13	324350	Pipe .....	1
5	292681	Lockwasher .....	1	14	324263	Bolt .....	2
6	324261	Case .....	1	14	324259	Washer .....	2
7	287805	Capscrew .....	2	14	292681	Lockwasher .....	2
8	324256	Drive Pinion .....	1				

## FLYWHEEL (Figure 48) DIESEL 2.4L, 2.8L, AND 3.1L



### KEY:

A: 2.4L

B: 2.8L & 3.1L

REF	PART NO.	NAME OF PART	QTY	
			A	B
1	1386791	Flywheel .....	1	..
1	1361111	Flywheel .....	..	1
1	1361112	Ring Gear .....	1	1
2	1337138	Housing .....	1	1
3	302385	Pin .....	2	2
4	292528	Capscrew .....	2	2
5	320161	Washer .....	2	2
6	324173	Reamer Bolt .....	1	1
7	292682	Washer .....	2	2
8	303109	Nut .....	1	1
9	1339639	Bolt .....	6	8
10	324282	Washer .....	1	..
10	1329234	Washer .....	..	1

REF	PART NO.	NAME OF PART	QTY	
			A	B
11	1338779	Bolt .....	3	3
12	324225	Bolt .....	2	4
13	324213	Bolt .....	3	3
14	296420	Washer .....	..	4
15	1329258	Capscrew .....	..	4
16	1332637	Stiffener (RH) .....	..	1
17	1332638	Stiffener (LH) .....	..	1
18	1337000	Flexplate .....	1	1
19	15942	Bolt .....	6	6
20	261379	Washer .....	6	6
21	1386795	Torque Converter .....	1	..
21	1343585	Torque Converter (3.58) .....	..	1
22	360387	Adhesive .....	ARAR	

## This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.



**LAST USED ON S/N D177B-8291**



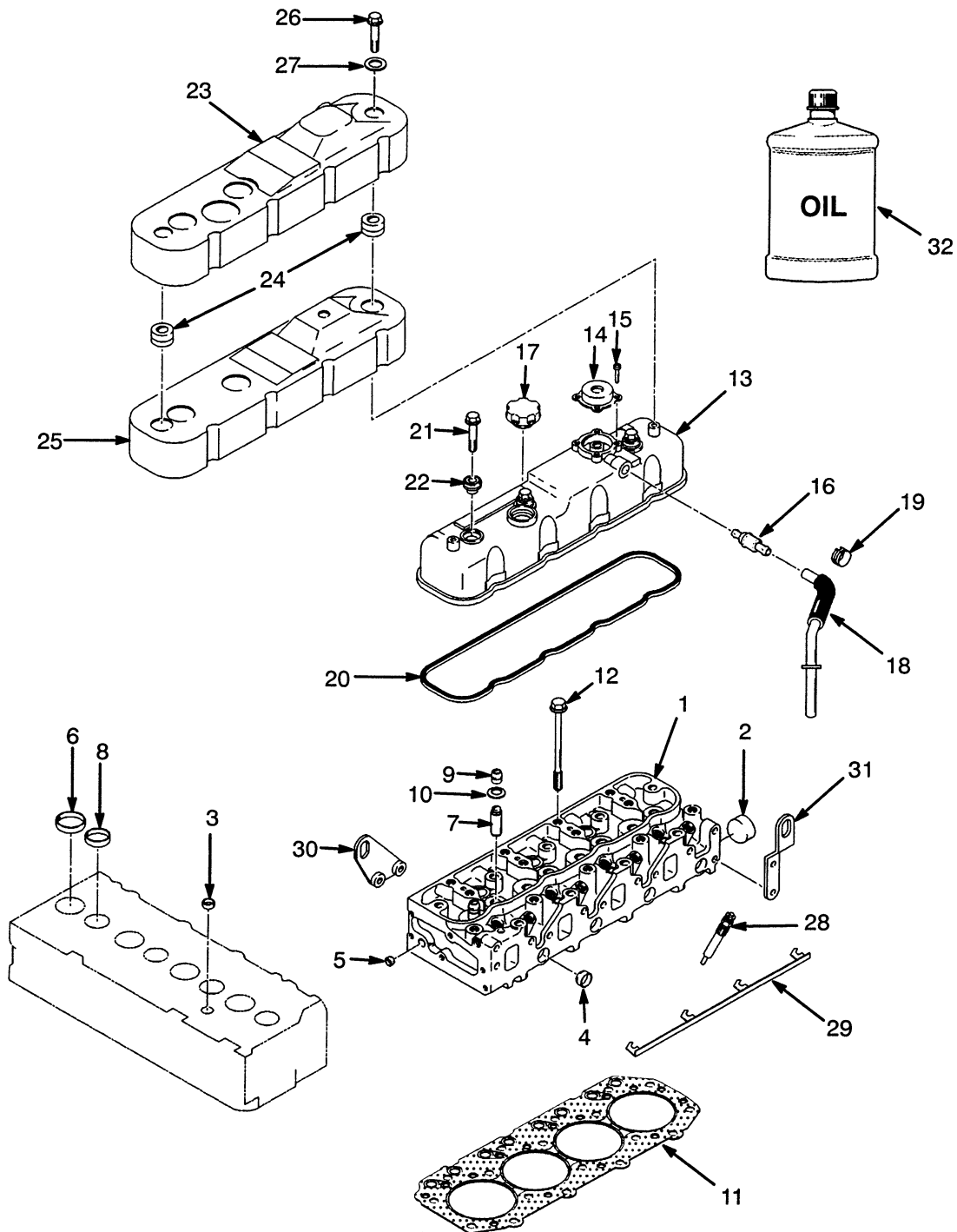
**CYLINDER BLOCK**  
**DIESEL 2.8L**  
**LAST USED ON S/N D177B-8291**

REF	PART NO.	NAME OF PART	QTY	REF	PART NO.	NAME OF PART	QTY
	1332575	Engine .....	1	12	324144	Cup .....	1
1	1360811	Block .....	1	13	324139	Cup .....	3
2	1456569	Cylinder liner (1-AX) .....	4	14	323816	Cup .....	2
2	1456570	Cylinder liner (1-CX) .....	4	15	324146	Plug .....	3
2	1456571	Cylinder liner (2-AX) .....	4	16	324374	Screw .....	1
2	1456572	Cylinder liner (2-CX) .....	4	17	348428	Gasket .....	1
2	1456573	Cylinder liner (3-AX) .....	4	18	1337680	Seal .....	1
2	1456574	Cylinder liner (3-CX) .....	4	19	1337681	Oil Seal .....	1
2	1456575	Cylinder liner (4-AX) .....	4	20	324161	Pin .....	2
2	1456576	Cylinder liner (4-CX) .....	4	21	1329318	Dowel .....	2
3	1337678	Bearing .....	1	22	1337693	Pin .....	2
4	324139	Cup .....	1	23	1374643	Plate (Front) .....	1
5	324140	Cup .....	1	24	1337684	Gasket .....	1
6	323817	Plug .....	3	25	1337685	Bolt .....	7
7	323815	Cup .....	3	26	324155	Pin .....	1
8	323818	Cup .....	1	27	14385	Water Drain Plug .....	1
9	324141	Cup .....	2	28	1338788	Adaptor .....	1
10	340868	Oil Pressure Switch .....	1	29	1338790	O-Ring .....	1
11	1361545	Water Duct .....	1				

## CYLINDER HEAD (Figure 50)

DIESEL 2.8L

LAST USED ON S/N D177B-8291



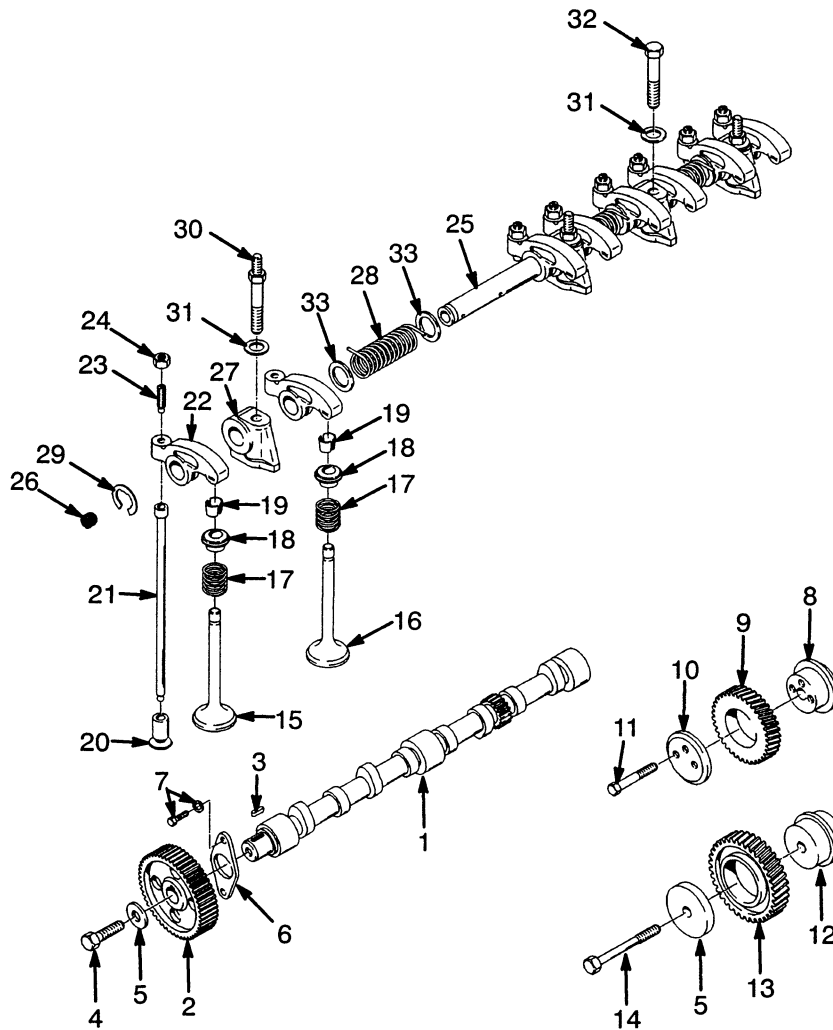
**CYLINDER HEAD**  
**DIESEL 2.8L**  
**LAST USED ON S/N D177B-8291**

REF	PART NO.	NAME OF PART	QTY	REF	PART NO.	NAME OF PART	QTY
1	1334670	Cylinder Head .....	1	18	1334669	Hose .....	1
2	323815	Cup .....	1	19	1334654	Clamp .....	2
3	323816	Cup .....	3	20	1334664	Gasket .....	1
4	1334651	Cup .....	7	21	1360824	Nut .....	3
5	323818	Cup .....	5	22	1334661	Packing .....	3
6	1334655	Inlet Insert .....	4	23	1334658	Cover .....	1
7	323822	Guide .....	8	24	1334667	Grommet .....	2
8	1334656	Exhaust Insert .....	4	25	1334660	Spacer .....	1
9	323823	Seal .....	8	26	1334650	Bolt .....	2
10	1334653	Seat .....	8	27	1334673	Washer .....	2
11	1334668	Gasket .....	1	28	1360816	Glow Plug .....	4
12	1334663	Bolt .....	18	29	1338787	Connector .....	1
13	1360823	Cover .....	1	30	1338776	Hanger (Front) .....	1
14	1334665	Ventillator valve .....	1	31	1338777	Hanger (Rear) .....	1
15	1334672	Screw .....	4	32	3021238	Engine Oil (Bulk) .....	AR
16	1334666	Breather Pipe .....	1	32	3021239	Engine Oil (55 Gallon) .....	AR
17	1334657	Oil Filler Cap .....	1	32	3021240	Engine Oil (12 Quart Case) ....	AR

## CAMSHAFT AND VALVES (Figure 51)

### DIESEL 2.8L

### LAST USED ON S/N D177B-8291



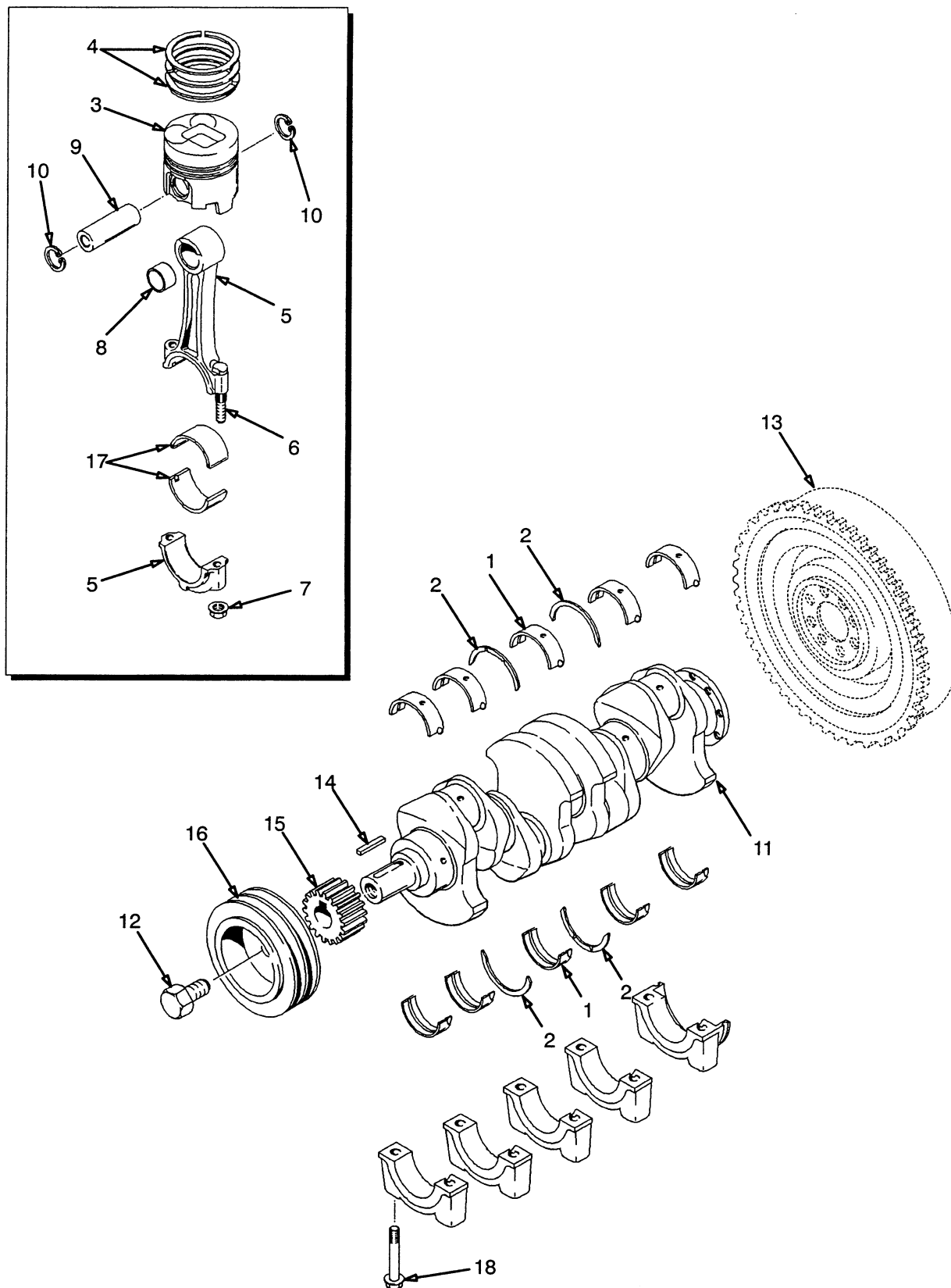
REF	PART NO.	NAME OF PART	QTY	REF	PART NO.	NAME OF PART	QTY
1	1338406	Camshaft .....	1	18	1374926	Seat .....	8
2	1338407	Gear .....	1	19	324306	Collar .....	16
3	324292	Key .....	1	20	1338422	Tappet .....	8
4	1338408	Bolt .....	1	21	1374927	Push Rod .....	8
5	324294	Washer .....	2	22	1338424	Rocker Arm .....	8
6	1338409	Thrust Plate .....	1	23	388280	Adjusting Screw .....	8
7	1338410	Bolt .....	2	24	324314	Nut .....	8
8	1338411	Shaft .....	1	25	1338427	Rocker Shaft .....	1
9	1338412	Gear .....	1	26	324316	End Plug .....	2
10	1338413	Collar .....	1	27	1338428	Bracket .....	4
11	373663	Bolt .....	2	28	1338429	Spring .....	3
12	1338415	Shaft .....	1	29	324319	Snap Ring .....	2
13	1338416	Gear .....	1	30	1338430	Bolt .....	3
14	1338417	Bolt .....	1	31	1338431	Washer .....	4
15	1338418	Inlet Valve .....	4	32	1338432	Bolt .....	1
16	1338419	Exhaust Valve .....	4	33	1338433	Washer .....	6
17	1338420	Spring (Outer) .....	8				

[illegible]

## CRANKSHAFT AND PISTON (Figure 52)

DIESEL 2.8L

LAST USED ON S/N D177B-8291



**CRANKSHAFT AND PISTON**

**DIESEL 2.8L**

**LAST USED ON S/N D177B-8291**

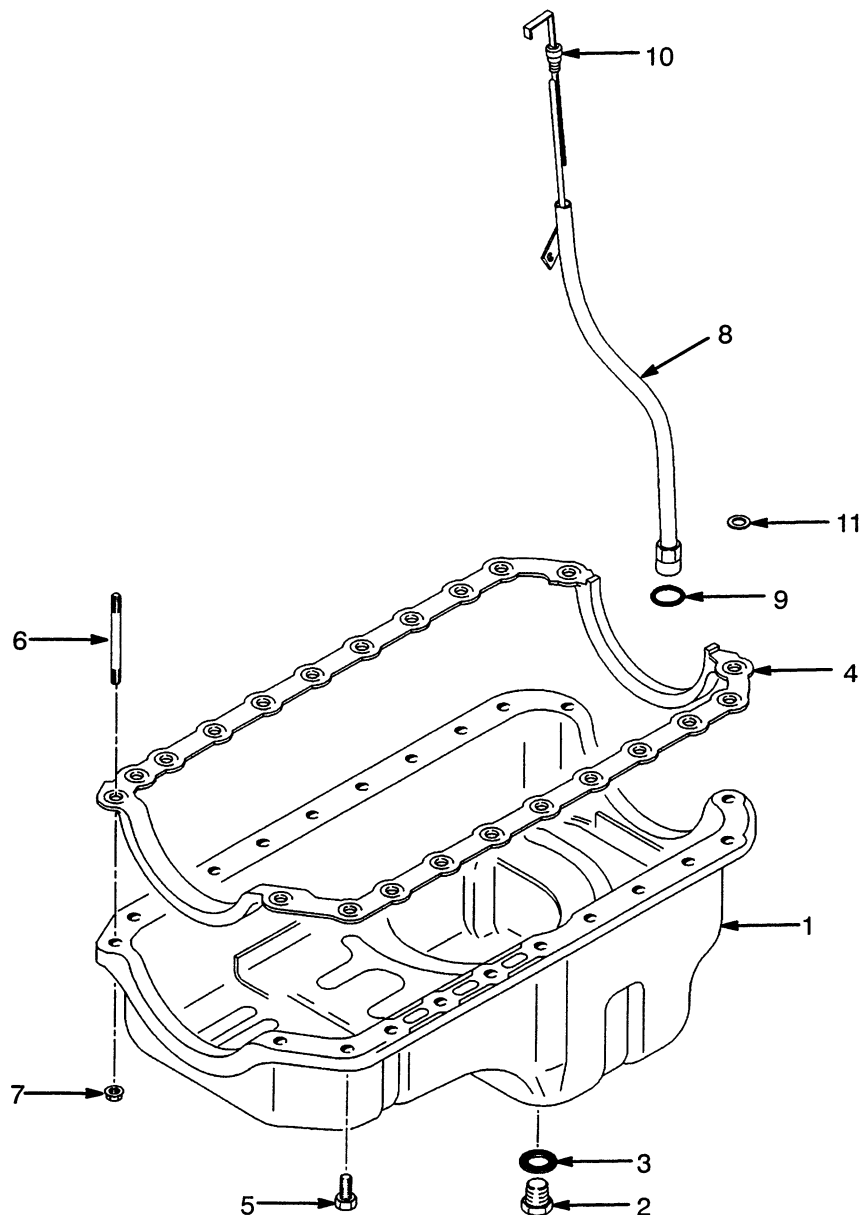
REF	PART NO.	NAME OF PART	QTY	REF	PART NO.	NAME OF PART	QTY
1	1334691	Bearing (Crankhaft) .....	1	12	1338405	Bolt .....	1
2	1334692	Thrust Bearing .....	1	13	.....	Flywheel .....	1
3 <sup>a</sup>	1456567	Piston .....	4			Figure 48	
3 <sup>b</sup>	1456568	Piston .....	4	14	348437	Key .....	1
4	1334694	Piston Ring Set .....	4	15	1338403	Gear .....	1
5	1334695	Connecting Rod .....	4	16	1338404	Pulley .....	1
6	1334696	Bolt .....	2	17	1334697	Bearing (Connecting Rod) .....	4
7	348457	Nut .....	2	18	1337677	Bolt .....	10
8	1369286	Bushing .....	1				
9	1334698	Piston Pin .....	4	<sup>a</sup>	With 'A' Or 'B' Stamp		
10	1334699	Snap Ring .....	8	<sup>b</sup>	With 'C' Or 'D' Stamp		
11	1338400	Crankshaft .....	1				



## CRANKCASE AND OIL PAN (Figure 53)

DIESEL 2.8L

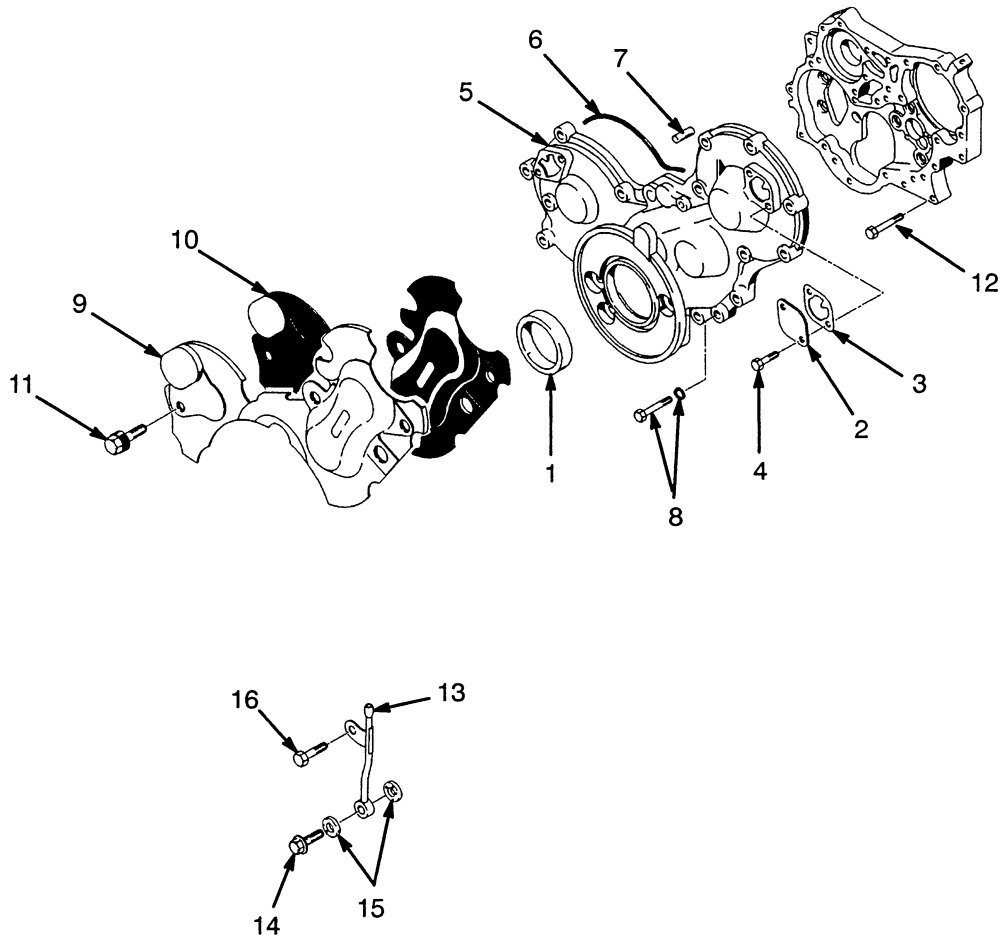
LAST USED ON S/N D177B-8291



REF	PART NO.	NAME OF PART	QTY
1	1334676	Oil Pan .....	1
2	1334679	Drain Plug .....	1
3	1334678	O-Ring .....	1
4	1374652	Gasket .....	1
5	1334680	Bolt .....	12
6	1334681	Stud .....	10

REF	PART NO.	NAME OF PART	QTY
7	1334682	Nut .....	10
8	1374653	Oil Level Tube .....	1
9	1338449	O-Ring .....	1
10	1334685	Oil Level Guage .....	1
11	324434	Flatwasher .....	1

**TIMING GEAR (Figure 54)**  
**DIESEL 2.8L**  
**LAST USED ON S/N D177B-8291**

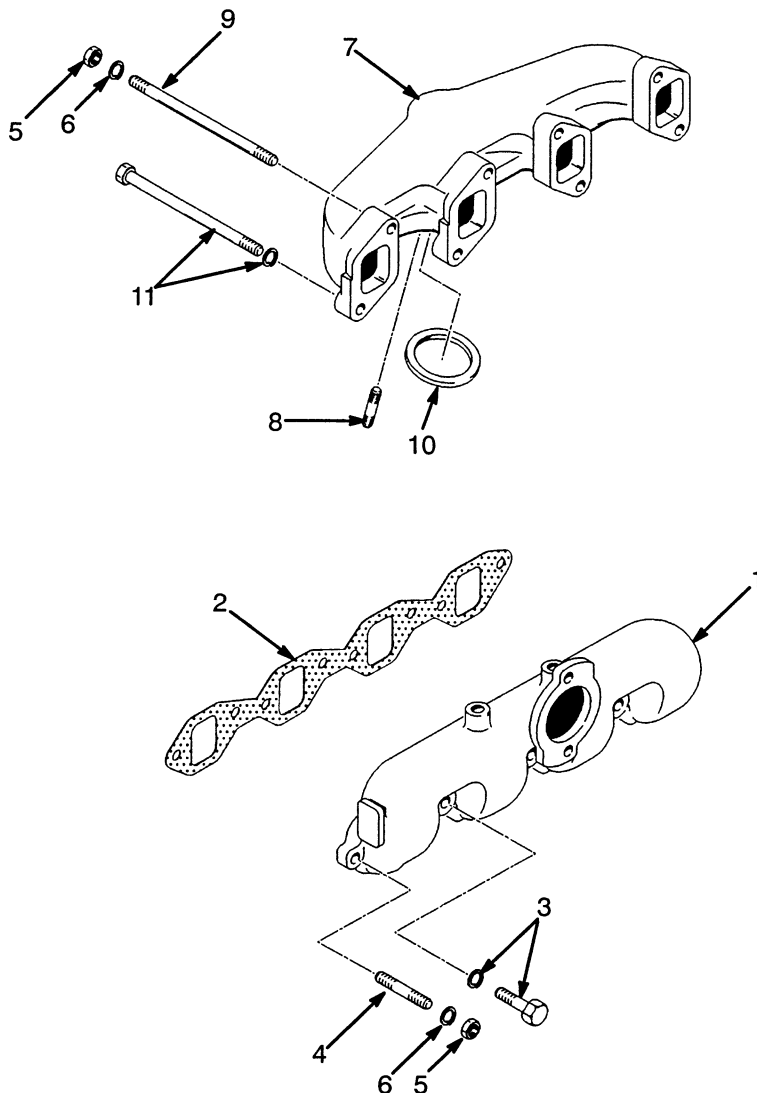


REF	PART NO.	NAME OF PART	QTY	REF	PART NO.	NAME OF PART	QTY
1	1374645	Oil Seal .....	1	9	1337697	Cover .....	1
2	324200	Cover .....	2	10	1337698	Spacer .....	1
3	1337690	Gasket .....	2	11	1337699	Bolt .....	4
4	324504	Bolt .....	4	12	1334675	Bolt .....	3
5	1337691	Cover .....	1	13	1338453	Pipe .....	1
6	1337692	O-Ring .....	1	14	1338454	Bolt .....	1
7	1337693	Pin .....	2	15	324412	Seal .....	1
8	1337694	Bolt .....	8	16	1338456	Bolt .....	1

## MANIFOLD (Figure 55)

### DIESEL 2.8L

LAST USED ON S/N D177B-8291

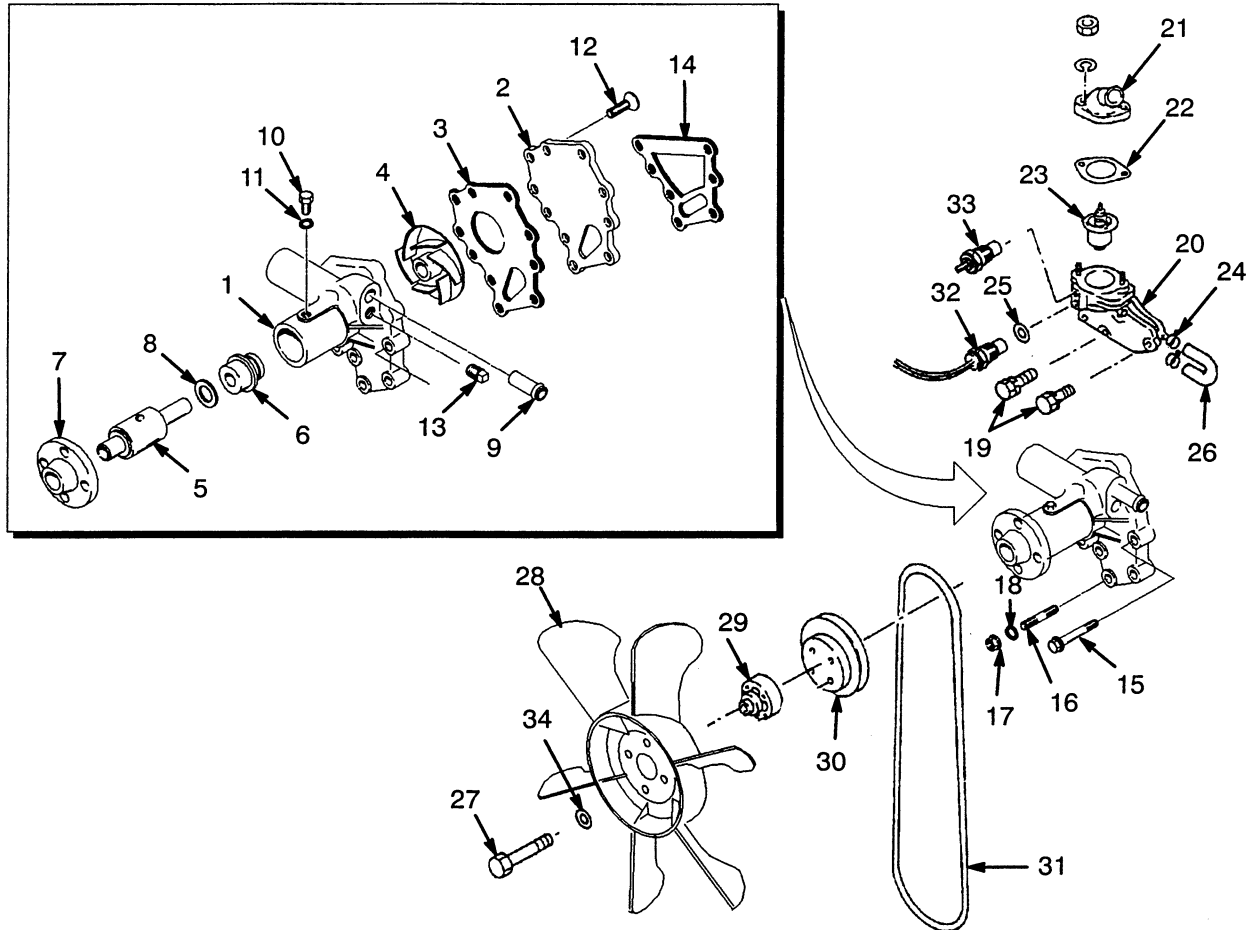


REF	PART NO.	NAME OF PART	QTY
1	1338752	Inlet Manifold .....	1
2	1361546	Gasket .....	1
3	1338754	Bolt and Washer .....	6
4	1329344	Stud .....	2
5	239503	Nut .....	4
6	292681	Spring Washer .....	4

REF	PART NO.	NAME OF PART	QTY
7	1374951	Exhaust Manifold .....	1
8	1361547	Stud .....	4
9	324125	Stud .....	2
10	1335954	Gasket .....	1
11	1338468	Bolt and Washer .....	6

## This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

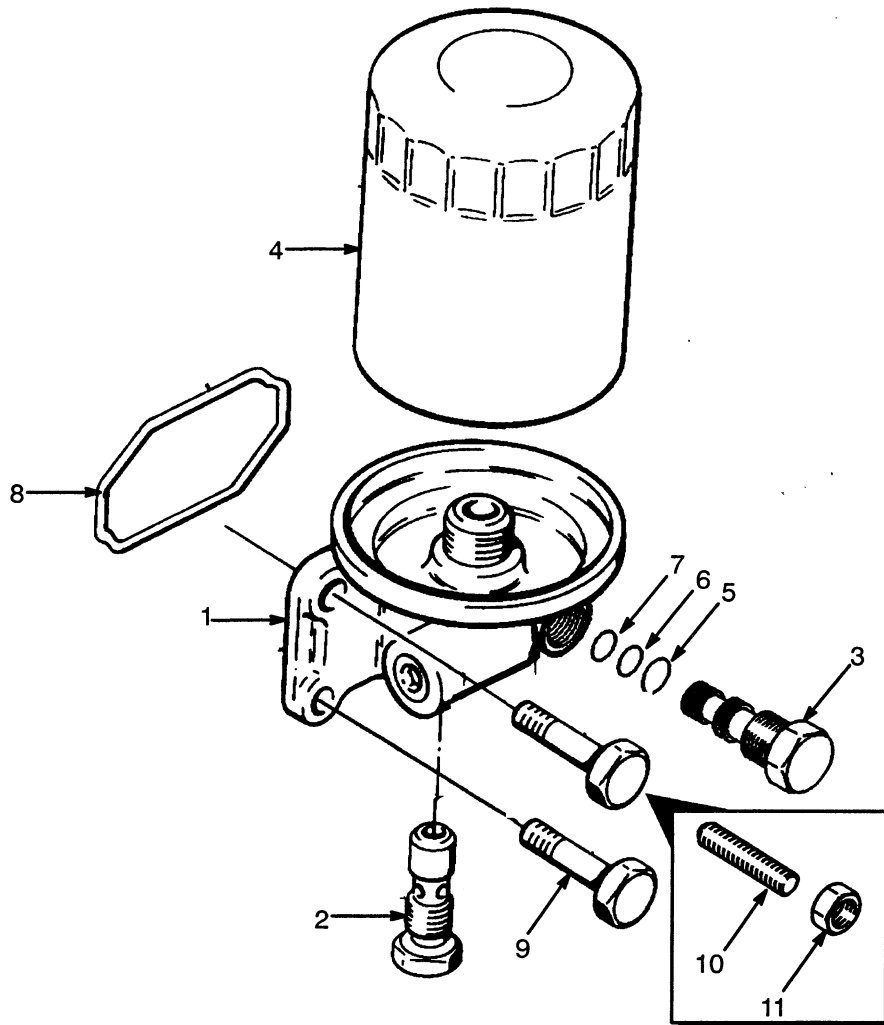
## WATER PUMP (Figure 56) DIESEL 2.8L AND 3.1L



**WATER PUMP  
DIESEL 2.8L AND 3.1L**

REF	PART NO.	NAME OF PART	QTY	REF	PART NO.	NAME OF PART	QTY
1	1338457	Water Pump .....	1	23 <b>c</b>	1374940	Thermostat (180° F) .....	1
2	1374948	Cover .....	1	24 <b>b</b>	1338466	Clamp .....	2
3 <b>a</b>	1342613	Gasket .....	1	24 <b>c</b>	1374942	Clamp .....	2
4 <b>a</b>	1329333	Impeller .....	1	25	324375	O-Ring .....	1
5 <b>a</b>	1329332	Bearing .....	1	26	1338465	By-pass Hose .....	1
6 <b>a</b>	1329337	Seal .....	1	27 <b>b</b>	1338468	Capscrew .....	1
7	324644	Mount .....	1	27 <b>c</b>	1374946	Capscrew .....	1
8 <b>a</b>	1329339	Bearing .....	1	28 <b>d</b>	1338472	Fan .....	1
9	1342614	Fitting .....	2	28 <b>e</b>	1375151	Fan .....	1
10	1342615	Setscrew .....	1	29 <b>b</b>	1338471	Spacer .....	1
11	292681	Washer .....	1	29 <b>c</b>	324366	Spacer .....	1
12	1374949	Screw .....	3	30 <b>b</b>	1338470	Fan Pulley .....	1
13	324167	Screw .....	1	30 <b>c</b>	1374944	Fan Pulley .....	1
14	1338458	Gasket .....	1	31	1376448	Belt .....	1
15	1338459	Capscrew .....	2	32 <b>b</b>	1361549	Temperature Switch .....	1
15	1338460	Capscrew .....	1	32 <b>c</b>	1369439	Temperature Switch .....	1
16	324126	Stud .....	3	33 <b>c</b>	1320939	Temperature Sender .....	1
17	239503	Nut .....	3	34 <b>c</b>	1374947	Washer .....	4
18	292681	Washer .....	3				
19	1338468	Capscrew .....	2	<b>a</b>	Included In Repair Kit 1342611		
19	1337685	Capscrew .....	3	<b>b</b>	2.8L Last Used On S/N D177B-8291		
20 <b>b</b>	1338463	Housing .....	1	<b>c</b>	3.1L First Used On S/N D177B-8292		
20 <b>c</b>	1374941	Housing .....	1	<b>d</b>	Last Used On S/N D177B-12749		
20 <b>b</b>	1338467	Gasket .....	1	<b>e</b>	First Used On S/N D177B-12750		
20 <b>ch</b>	1374943	Gasket .....	1	<b>f</b>	2.8L		
21	1338461	Water Outlet .....	1	<b>g</b>	3.1L		
22 <b>fk</b>	1334272	Gasket .....	1	<b>h</b>	Included In Seal Kit 1457161		
22 <b>gh</b>	1334272	Gasket .....	1	<b>k</b>	Included In Seal Kit 1457015		
23 <b>b</b>	1338462	Thermostat (180° F) .....	1				

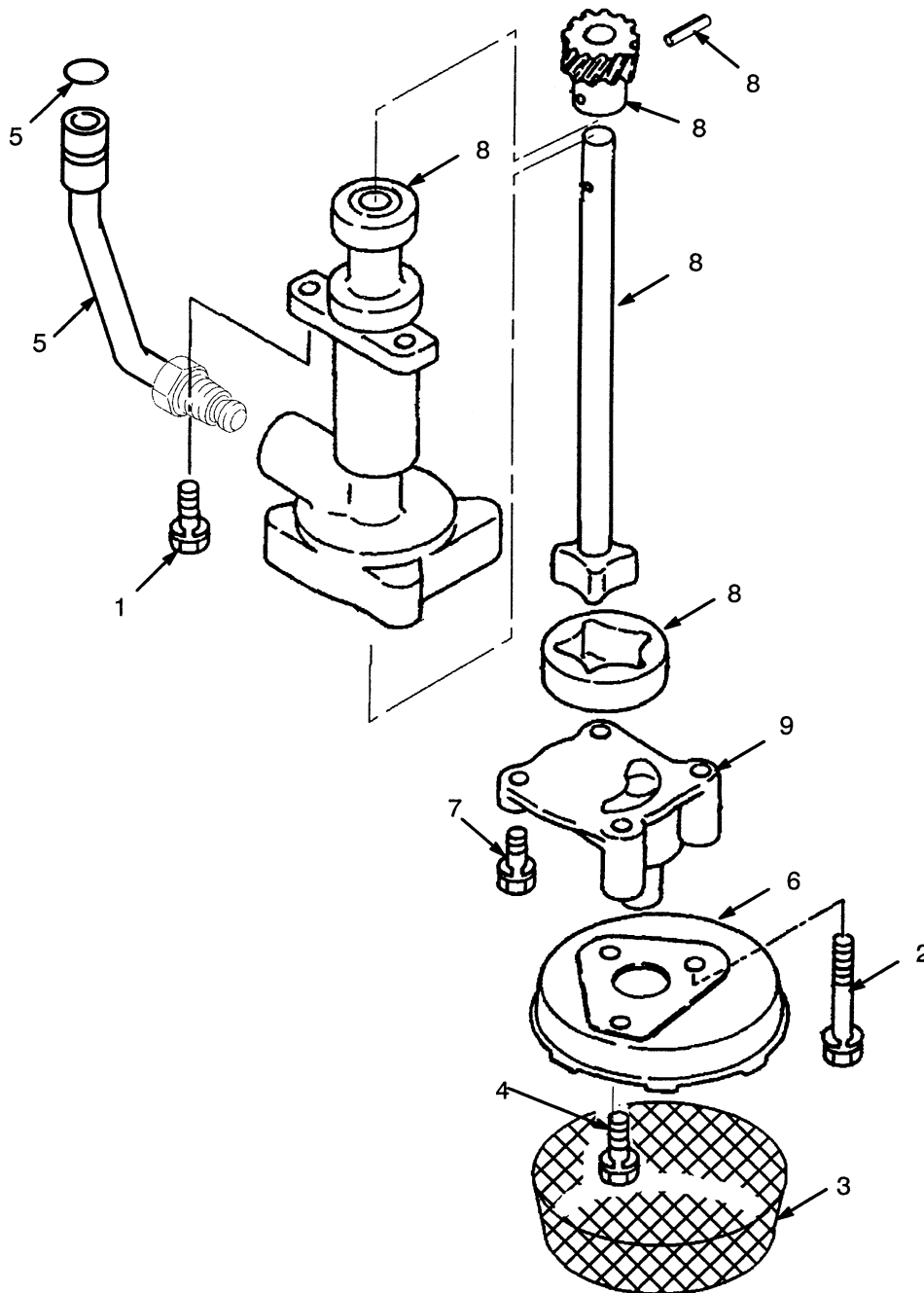
## OIL FILTER (Figure 57) DIESEL 2.8L AND 3.1L



REF	PART NO.	NAME OF PART	QTY
	1338434	Oil Filter .....	1
1	1338435	Housing .....	1
2	1338436	Check Valve .....	1
3	1338437	Plug .....	1
4	1374939	Oil Filter .....	1
5	1338439	O-Ring .....	1
6	1338440	O-Ring .....	1
7	1338441	O-Ring .....	1
8 <sup>a</sup>	1374932	Gasket .....	1

REF	PART NO.	NAME OF PART	QTY
8 <sup>bc</sup>	1374932	Gasket .....	1
9 <sup>a</sup>	1338442	Capscrew .....	4
9 <sup>b</sup>	1374649	Capscrew .....	2
10 <sup>b</sup>	1329344	Stud .....	2
11 <sup>b</sup>	1374933	Nut .....	2
<sup>a</sup>	2.8L		
<sup>b</sup>	3.1L		
<sup>c</sup>	Included In Seal Kit 1457161		

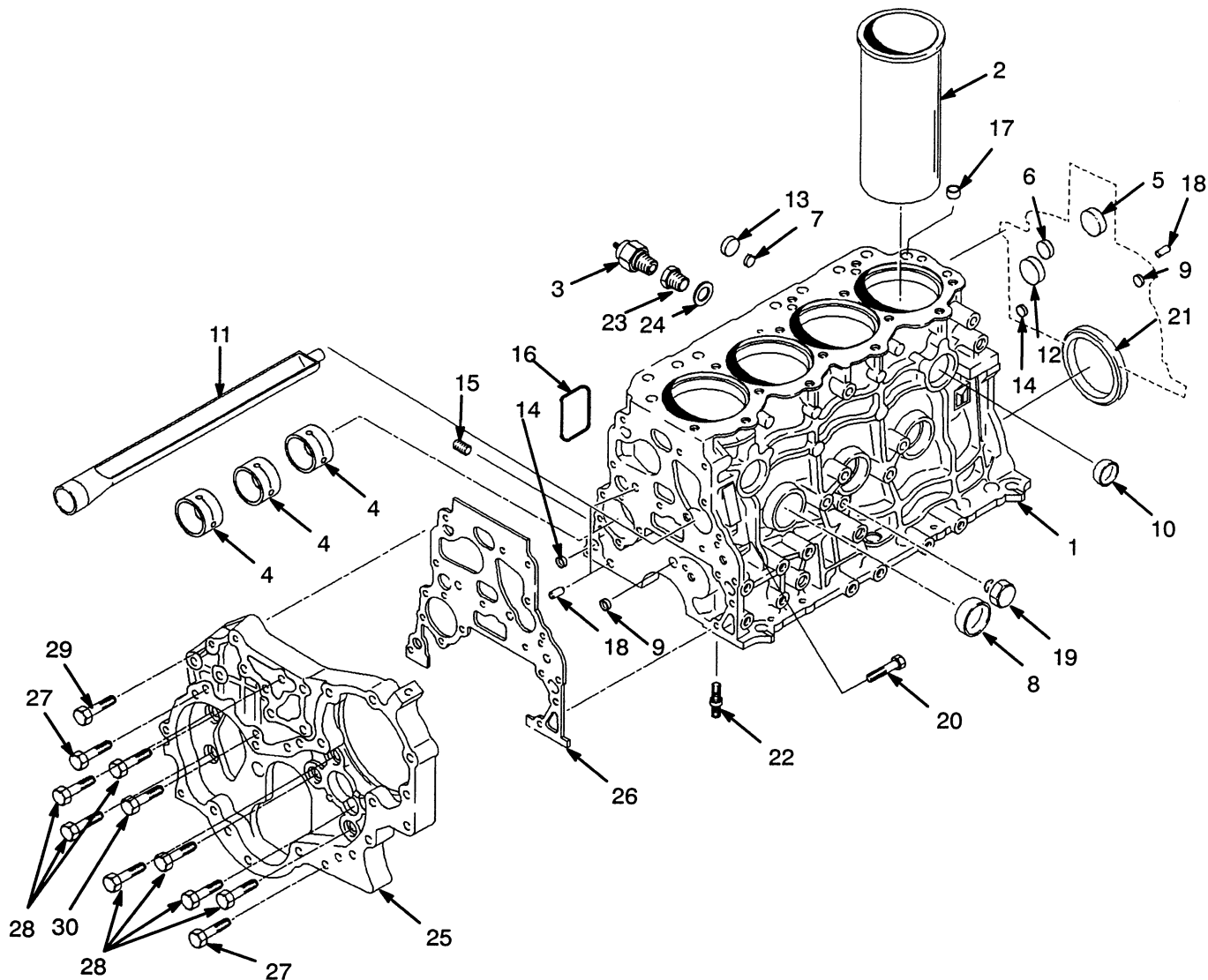
**OIL PUMP (Figure 58)**  
**DIESEL 2.8L AND 3.1L**



REF	PART NO.	NAME OF PART	QTY	REF	PART NO.	NAME OF PART	QTY
	1329314	Oil Pump .....	1	6	324261	Case .....	1
1	324263	Capscrew .....	2	7	373658	Capscrew .....	2
2	388278	Capscrew .....	2	8	1342600	Pump Rotor .....	1
3	324260	Screen .....	1	9	324257	Cover .....	1
4	1374655	Capscrew .....	1				
5	1338448	Pipe .....	1	a	2.8L		
5 a	1338449	O-Ring .....	1	b	3.1L		
5 bc	1338449	O-Ring .....	1	c	Included In Seal Kit 1457161		



## CYLINDER BLOCK (Figure 59) DIESEL 3.1L FIRST USED ON S/N D177B-8292



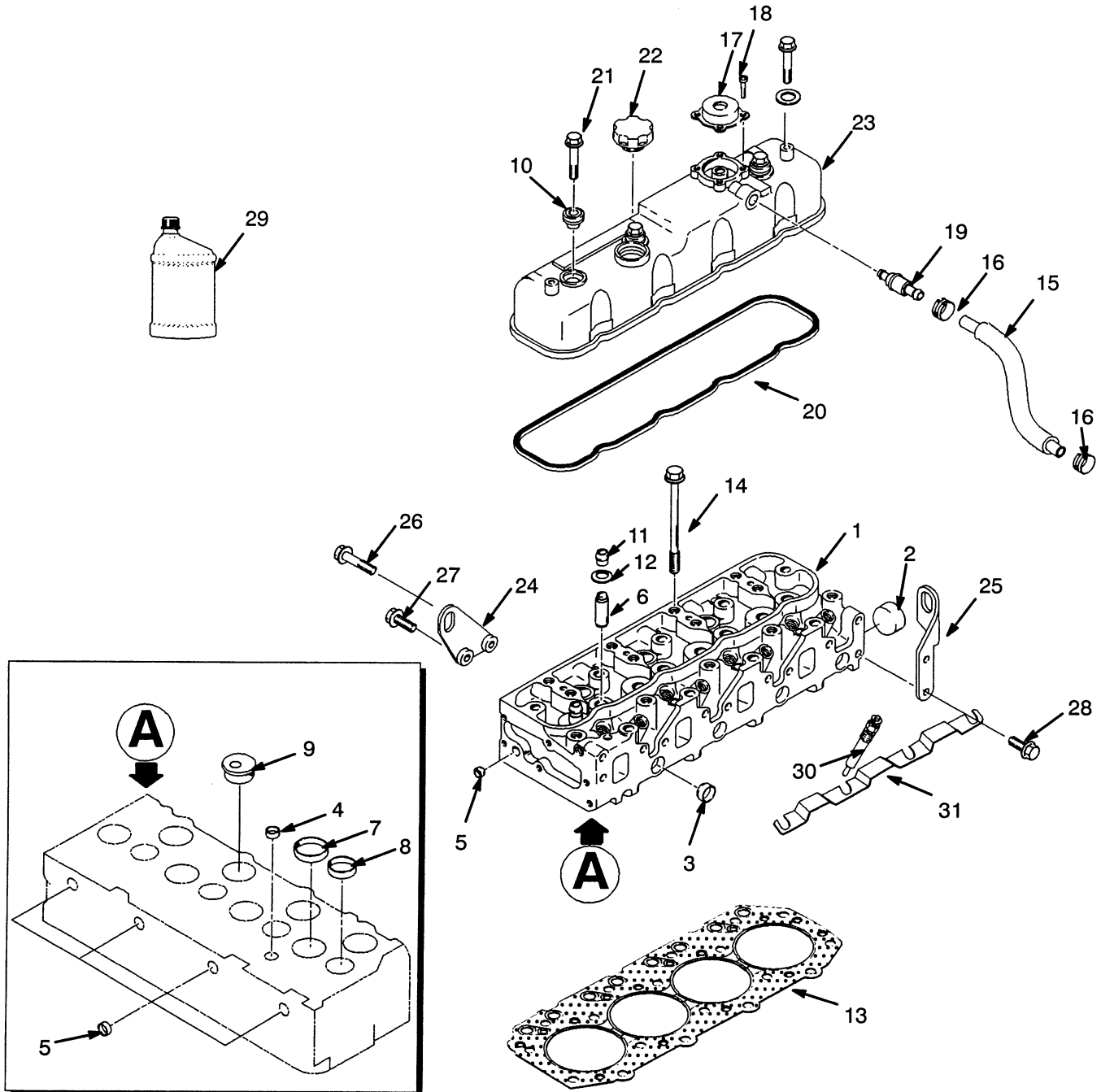
**CYLINDER BLOCK**  
**DIESEL 3.1L**  
**FIRST USED ON S/N D177B-8292**

REF	PART NO.	NAME OF PART	QTY	REF	PART NO.	NAME OF PART	QTY
	1356396	Engine .....	1	12	324144	Cup .....	1
1	1374638	Cylinder Block .....	1	13	324139	Cup .....	3
2	1456577	Cylinder Liner (1-AX) .....	4	14	323816	Cup .....	2
2	1456581	Cylinder Liner (1-CX) .....	4	15	324146	Plug .....	3
2	1456582	Cylinder Liner (2-AX) .....	4	16	1337680	Seal .....	1
2	1456583	Cylinder Liner (2-CX) .....	4	17	1329318	Dowel .....	2
2	1456584	Cylinder Liner (3-AX) .....	4	18	1337693	Pin .....	3
2	1456585	Cylinder Liner (3-CX) .....	4	19	14385	Fitting .....	1
2	1456586	Cylinder Liner (4-AX) .....	4	20	324173	Bolt .....	1
2	1456587	Cylinder Liner (4-CX) .....	4	21 <sup>a</sup>	1374642	Seal .....	1
3	1374971	Oil Pressure Switch .....	1	22	1334681	Stud .....	10
4	1337678	Bearing Kit (Standard) .....	1	23	1361544	Connector .....	1
4	1374978	Bearing Kit (0.50 mm) .....	1	24 <sup>a</sup>	324148	Washer .....	1
4	1374979	Bearing Kit (1.00 mm) .....	1	25	1374643	Case .....	1
5	324139	Cup .....	1	26 <sup>a</sup>	1374644	Packing .....	1
6	324140	Cup .....	1	27	1334675	Bolt .....	10
7	323817	Plug .....	3	28	1337685	Bolt .....	7
8	323815	Cup .....	3	29	1374649	Bolt .....	1
9	323818	Cup .....	1	30	1338460	Bolt .....	1
10	324141	Cup .....	2				
11	1374640	Water Duct .....	1	<sup>a</sup>	Included In Seal Kit 1457161		

## CYLINDER HEAD (Figure 60)

DIESEL 3.1L

FIRST USED ON S/N D177B-8292



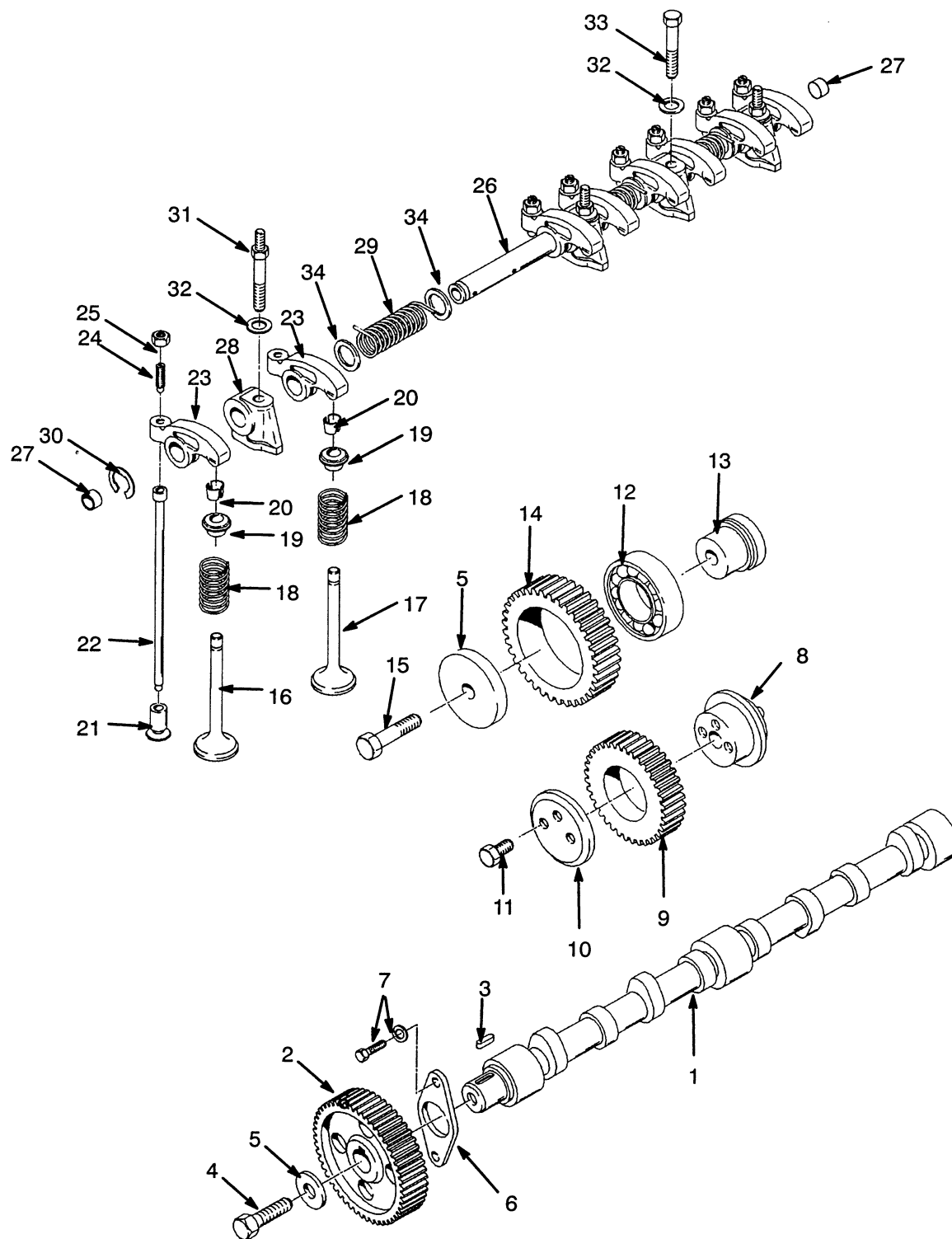
**CYLINDER HEAD**  
**DIESEL 3.1L**  
**FIRST USED ON S/N D177B-8292**

REF	PART NO.	NAME OF PART	QTY	REF	PART NO.	NAME OF PART	QTY
1	1374630	Cylinder Head .....	1	17	1334665	Oil Cap .....	1
2	323815	Cup .....	1	18	1334672	Screw .....	4
3	1334651	Cup .....	7	19	1334666	Breather Pipe .....	1
4	323816	Cup .....	3	20	<sup>a</sup> 1334664	Gasket .....	1
5	323818	Cup .....	5	21	1334662	Nut Cap .....	3
6	323822	Guide .....	8	22	1334657	Cap .....	1
7	1374631	Insert .....	4	22	<sup>a</sup> 1457164	Gasket .....	1
8	1334656	Insert .....	4	23	1374635	Cover .....	1
9	1374632	Plug .....	4	24	1338776	Bracket (Front) .....	1
10	<sup>a</sup> 1334661	Packing .....	3	25	1374965	Bracket (Rear) .....	1
11	<sup>a</sup> 323823	Seal .....	8	26	1338754	Bolt .....	1
12	1334653	Spring Seat .....	8	27	1374966	Bolt .....	1
13	1374633	Gasket (1.50 mm Grade A) .....	1	28	1338780	Bolt .....	2
13	<sup>a</sup> 1374974	Gasket (1.55 mm Grade B) .....	1	29	3021240	Engine Oil (12 Quart) .....	AR
13	1374975	Gasket (1.60 mm Grade C) .....	1	30	1374969	Glow Plug .....	4
14	1374634	Bolt .....	18	31	1374970	Connector .....	1
15	1374636	Hose .....	1				
16	1334654	Clip .....	2		<sup>a</sup>	Included In Seal Kit 1457161	

## CAMSHAFT AND VALVES (Figure 61)

DIESEL 3.1L

FIRST USED ON S/N D177B-8292



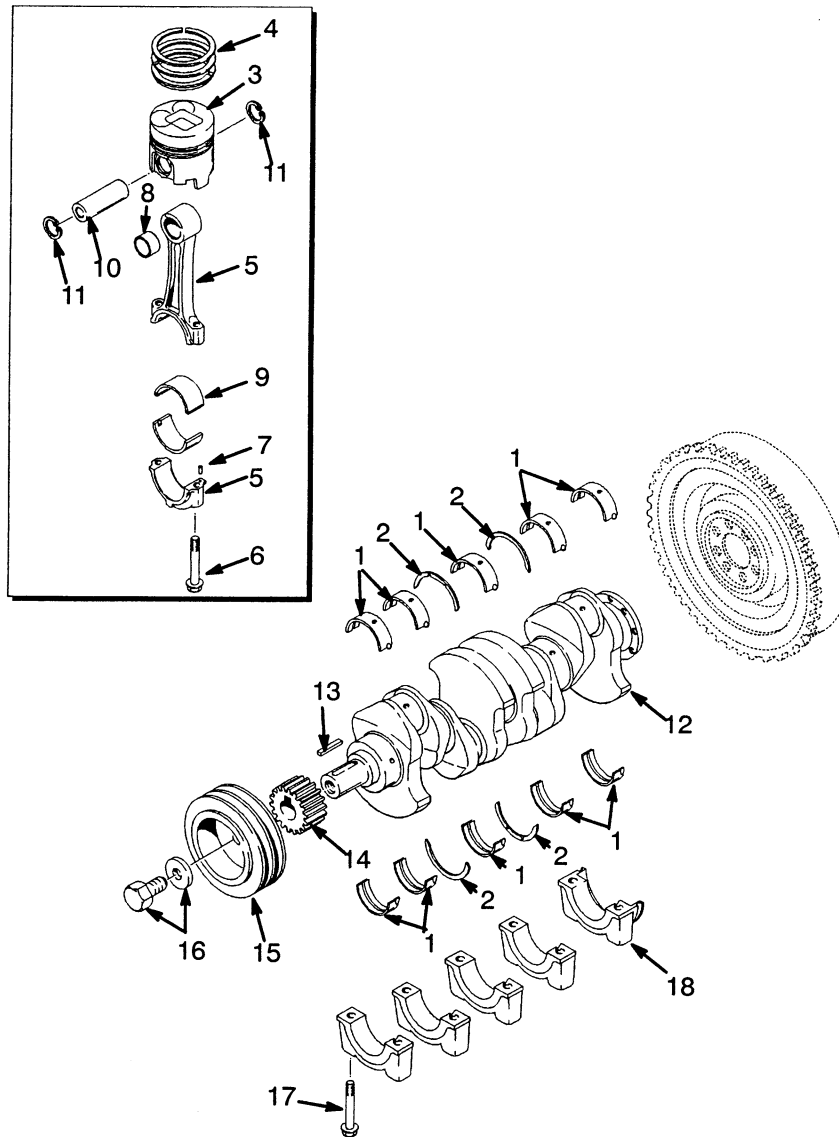
**CAMSHAFT AND VALVES**  
**DIESEL 3.1L**  
**FIRST USED ON S/N D177B-8292**

REF	PART NO.	NAME OF PART	QTY	REF	PART NO.	NAME OF PART	QTY
1	1374669	Camshaft .....	1	18	1338420	Spring .....	8
2	1374670	Gear .....	1	19	1374926	Spring Seat .....	8
3	324292	Key .....	1	20	324306	Collar .....	16
4	324293	Bolt .....	1	21	1338422	Tappet .....	8
5	324294	Washer .....	2	22	1374927	Push Rod .....	8
6	1338409	Thrust Plate .....	1	23	1338424	Rocker Arm .....	8
7	1338410	Bolt and Washer .....	2	24	388280	Adjusting Screw .....	8
8	1338411	Shaft .....	1	25	324314	Nut .....	8
9	1374671	Gear .....	1	26	1374928	Shaft .....	1
10	1338413	Thrust Plate .....	1	27	324316	Plug .....	2
11	373663	Bolt .....	2	28	1338428	Bracket .....	4
12	1374672	Bearing .....	1	29	1374929	Spring .....	3
13	1338415	Shaft .....	1	30	324319	Snap Ring .....	2
14	1374673	Gear .....	1	31	1338430	Bolt .....	3
15	1338417	Bolt .....	1	32	1338431	Washer .....	4
16	1374674	Inlet Valve .....	4	33	1338432	Bolt .....	1
17	1374925	Exhaust Valve .....	4	34	1338433	Washer .....	6

## CRANKSHAFT AND PISTON (Figure 62)

DIESEL 3.1L

FIRST USED ON S/N D177B-8292



REF	PART NO.	NAME OF PART	QTY
1 <sup>a</sup>	1374657	Bearing Set (Blue) .....	AR
1 <sup>a</sup>	1374976	Bearing Set (Black) .....	AR
1 <sup>a</sup>	1374977	Bearing Set (Green) .....	AR
2	1330003	Bearing .....	2
3 <sup>b</sup>	1458350	Piston .....	4
3 <sup>c</sup>	1458351	Piston .....	4
4	1374659	Piston Ring Set .....	4
5	1374660	Connecting Rod .....	4
6	1374661	Bolt .....	2
7	1374662	Pin .....	2
8	1374663	Bushing .....	1
9	1334697	Bearing Set .....	4
10	1374664	Pin .....	4

REF	PART NO.	NAME OF PART	QTY
11	1374665	Snap Ring .....	8
12	1374666	Crankshaft .....	1
13	348437	Key .....	1
14	1374667	Gear .....	1
15	1338404	Pulley .....	1
16	1338405	Bolt .....	1
17	1337677	Bolt .....	10
18	.....	Cap .....	5

<sup>a</sup> Bearing Sets Are Select To Fit. See Service Manual.

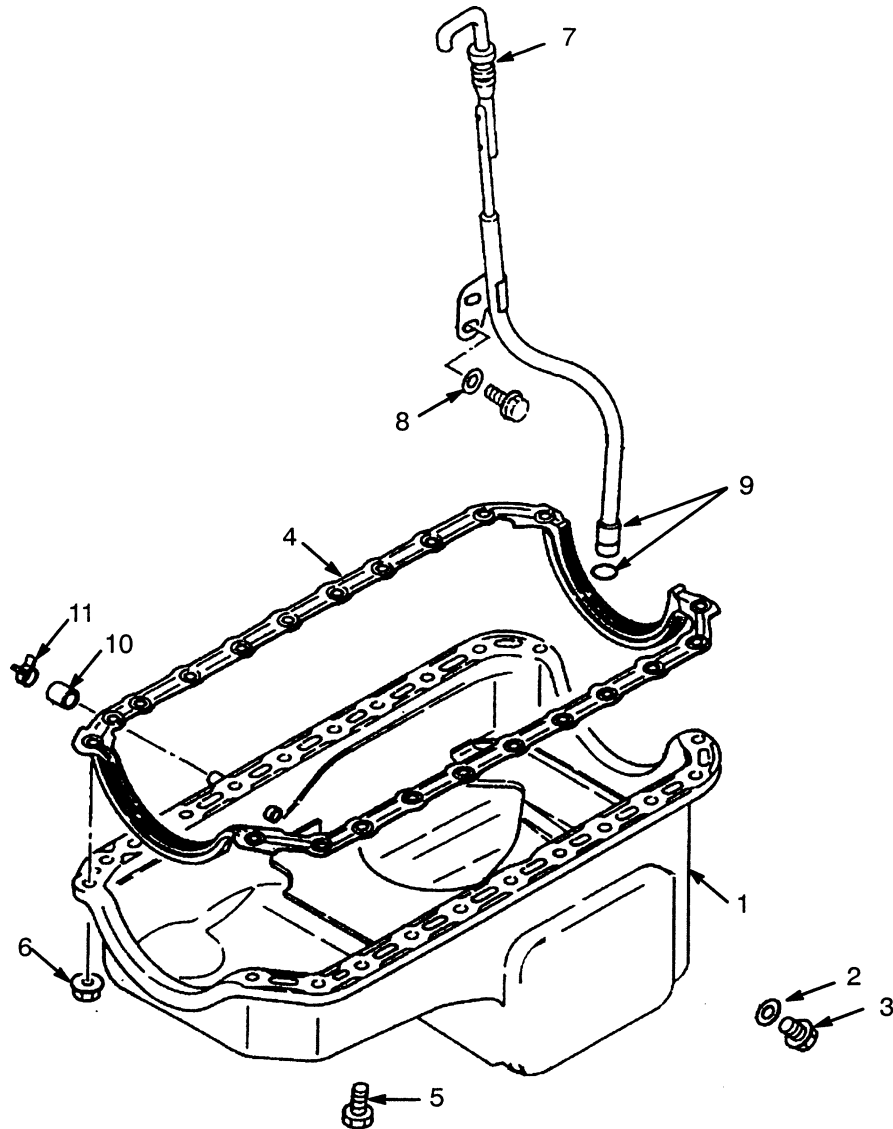
<sup>b</sup> With 'A' Or 'B' Stamp

<sup>c</sup> With 'C' Or 'D' Stamp

**CRANKCASE AND OIL PAN (Figure 63)**

**DIESEL 3.1L**

**FIRST USED ON S/N D177B-8292**



REF	PART NO.	NAME OF PART	QTY
1	1374651	Oil Pan .....	1
2	<sup>a</sup> 1334678	Packing .....	1
3	1334679	Drain Plug .....	1
4	<sup>a</sup> 1374652	Packing .....	1
5	1334680	Bolt .....	12
6	1334682	Nut .....	10
7	1334685	Oil Level Tube .....	1

REF	PART NO.	NAME OF PART	QTY
8	324434	Washer .....	1
9	1374653	Oil Level Tube .....	1
10	1360822	Cap .....	1
11	1374654	Clip .....	1

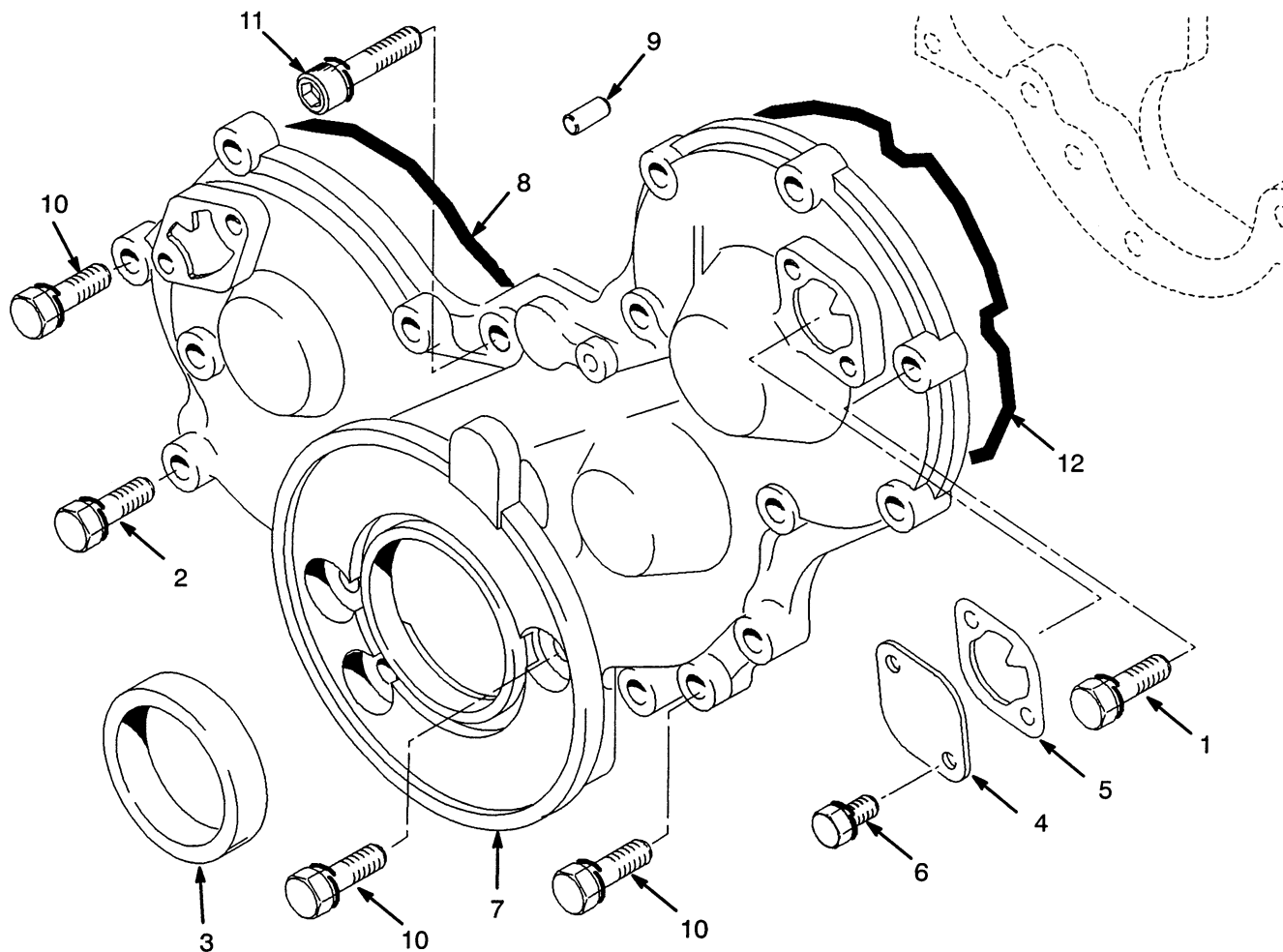
<sup>a</sup> Included In Seal Kit 1457161



## TIMING GEAR (Figure 64)

### DIESEL 3.1L

### FIRST USED ON S/N D177B-8292

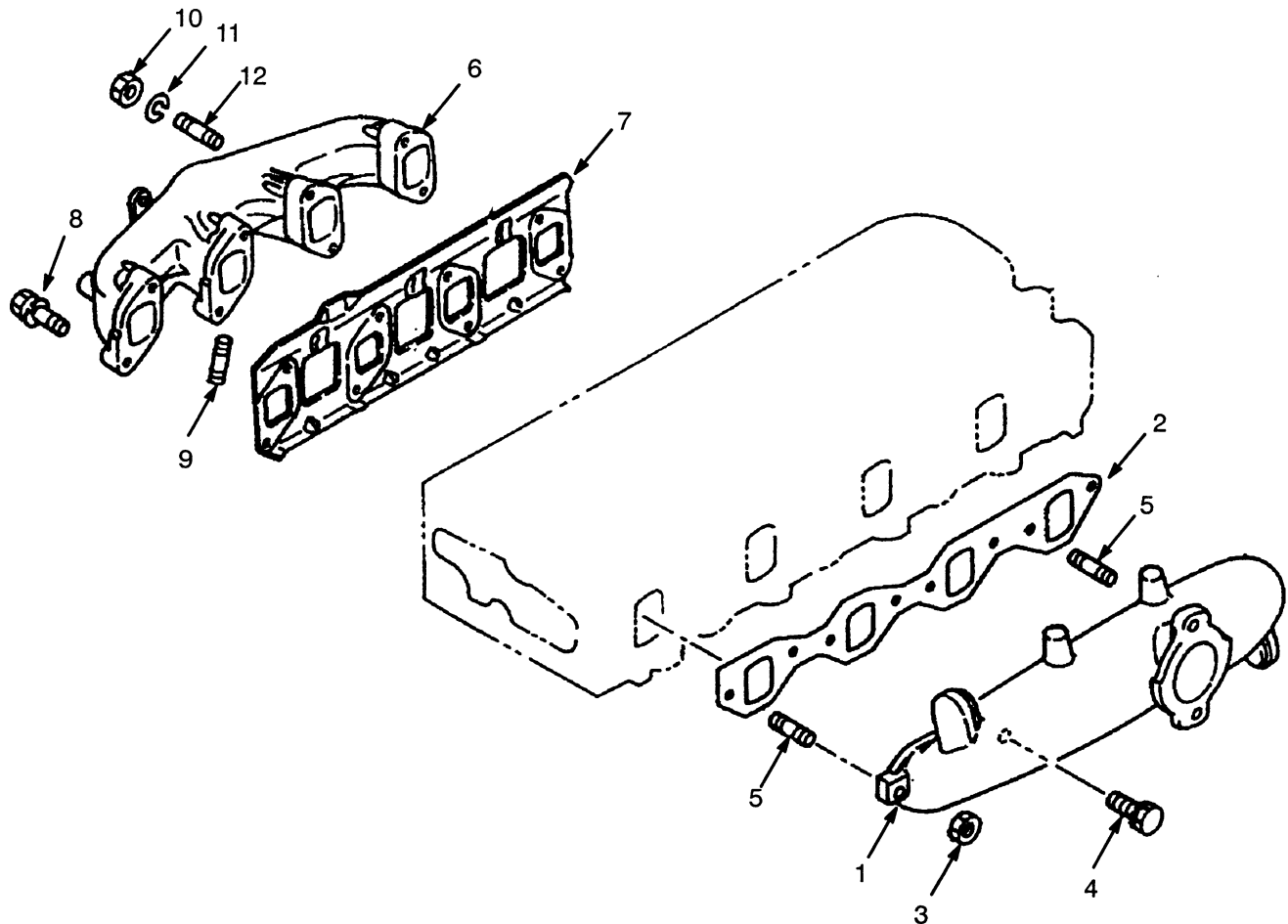


REF	PART NO.	NAME OF PART	QTY
1	1337696	Bolt	6
2	1374648	Bolt	1
3 <sup>a</sup>	1374645	Seal	1
4	324200	Cover	2
5 <sup>a</sup>	324201	Packing	2
6	1361524	Bolt	4
7	1337691	Cover	1

REF	PART NO.	NAME OF PART	QTY
8 <sup>a</sup>	1337692	O-Ring	1
9	1337693	Pin	2
10	1337694	Bolt	8
11	1337695	Bolt	1
12 <sup>a</sup>	1459382	O-Ring	1

<sup>a</sup> Included In Seal Kit 1457161

**MANIFOLDS (Figure 65)**  
**DIESEL 3.1L**  
**FIRST USED ON S/N D177B-8292**



REF	PART NO.	NAME OF PART	QTY
1	1338752	Inlet Manifold .....	1
2 <sup>a</sup>	1361546	Gasket .....	1
3	1374954	Nut .....	2
4	1338754	Bolt .....	6
5	1329344	Stud .....	2
6	1374951	Exhaust Manifold .....	1
7 <sup>a</sup>	1388391	Gasket .....	1

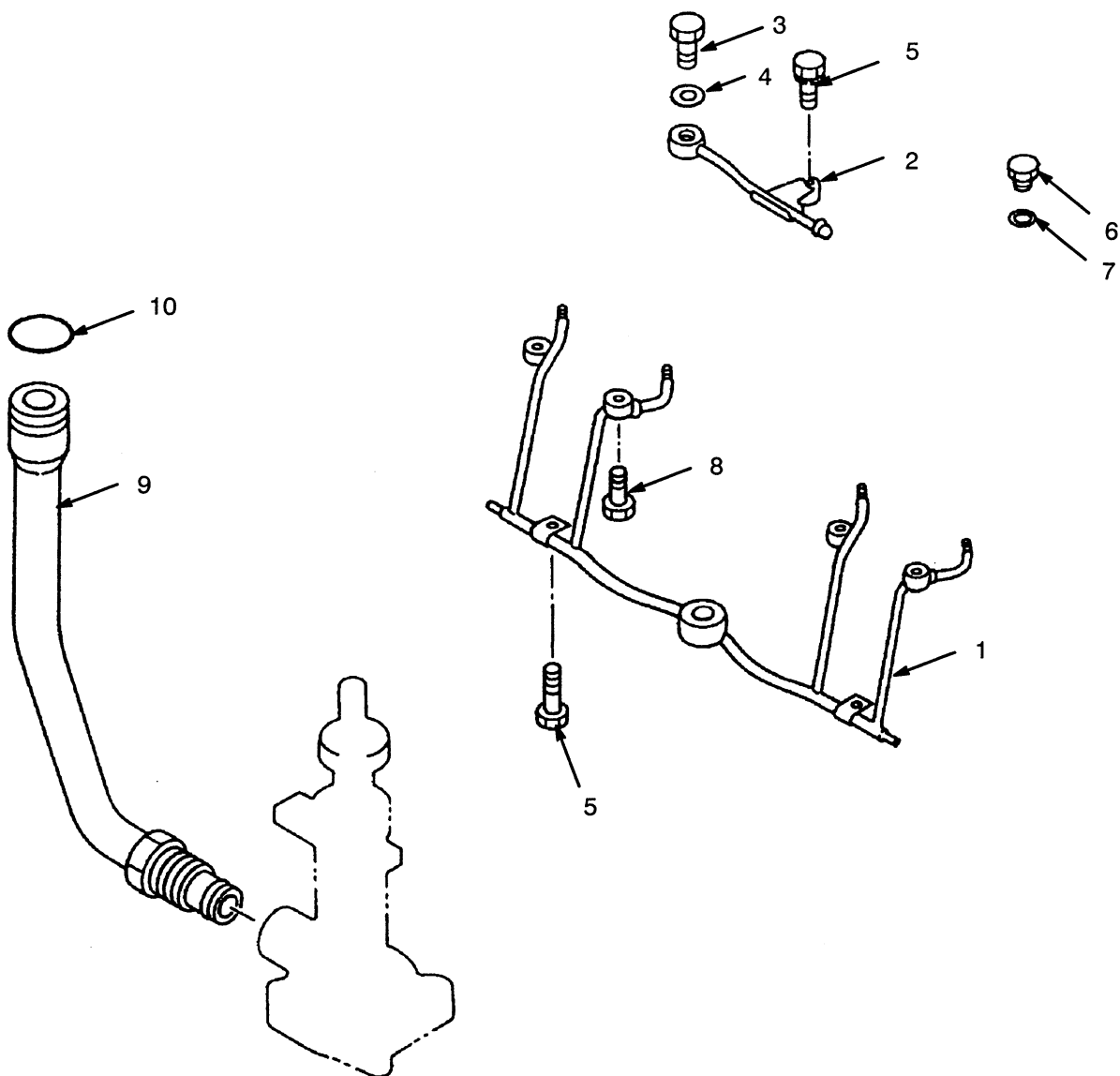
REF	PART NO.	NAME OF PART	QTY
8	1374955	Bolt .....	6
9	1374956	Stud .....	4
10	239503	Nut .....	2
11	292681	Washer .....	2
12	1374953	Stud .....	2

<sup>a</sup> Included In Seal Kit 1457161

## LUBRICATION SYSTEM (Figure 66)

DIESEL 3.1L

FIRST USED ON S/N D177B-8292



REF	PART NO.	NAME OF PART	QTY
1	1374935	Pipe .....	1
2	1338453	Pipe .....	1
3	1338454	Bolt .....	1
4 <sup>a</sup>	324412	Seal .....	1
5	1361537	Bolt .....	3
6	324385	Plug .....	1
7 <sup>a</sup>	324356	Seal .....	1

REF	PART NO.	NAME OF PART	QTY
8	1374936	Bolt .....	4
9		.... Pipe .....	1
		☞ Figure 58	
10		.... O-Ring .....	1
		☞ Figure 58	

<sup>a</sup> Included In Seal Kit 1457161

---

**FUEL SYSTEM**

AIR FILTER AND BREATHER (Figure 89) GASOLINE AND LPG 3.0L .....	Page 152
AIR FILTER (Figure 88) GASOLINE AND LPG 2.0L AND 2.2L .....	Page 150
AIR FILTER (Figure 90) DIESEL .....	Page 154
CARBURETOR (Figure 82) GASOLINE 2.0L .....	Page 139
CARBURETOR (Figure 83) LPG 2.0L .....	Page 140
CARBURETOR (Figure 85) LPG 2.2L .....	Page 144
CARBURETOR (Figure 86) LPG 3.0L .....	Page 146
DUAL FUEL (Figure 71) 3.0L .....	Page 118
FILTER AND LOCK-OFF VALVE (Figure 94) LPG .....	Page 162
FUEL (Figure 69) LPG 3.0L LAST USED ON S/N D177B-39471 .....	Page 114
FUEL (Figure 70) LPG 3.0L FIRST USED ON S/N D177B-39472 .....	Page 116
FUEL (Figure 74) LPG FIELD CONVERSION 2.2L .....	Page 124
FUEL (Figure 75) LPG 2.0L .....	Page 126

---

**FUEL SYSTEM (CONTINUED)**

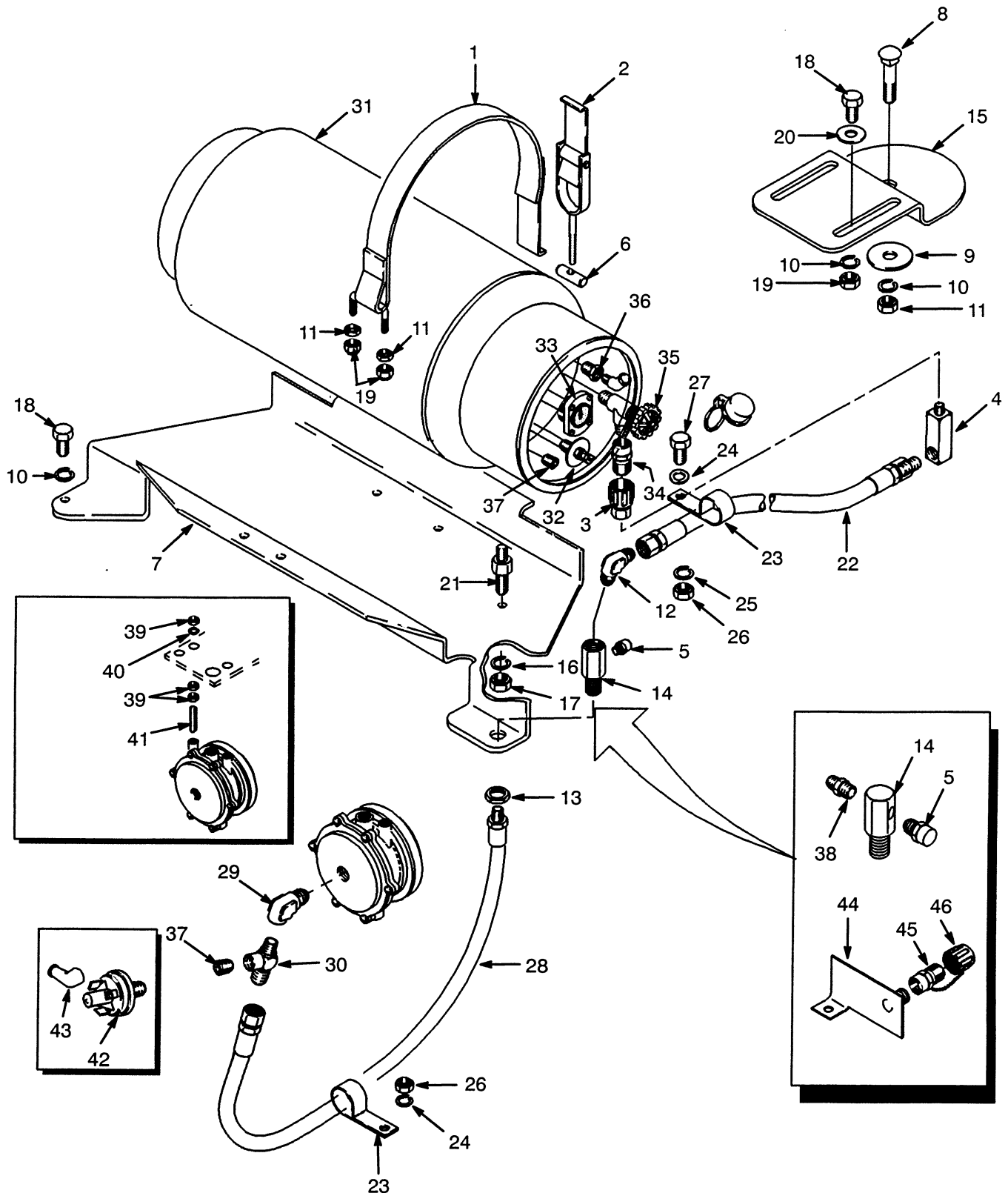
FUEL (Figure 76) GASOLINE 2.0L .....	Page 128
FUEL (Figure 77) GASOLINE 2.2L .....	Page 130
FUEL (Figure 78) GASOLINE 3.0L .....	Page 132
FUEL (Figure 79) DIESEL 2.4L .....	Page 134
FUEL (Figure 80) DIESEL 3.1L .....	Page 136
FUEL INJECTION (Figure 91) DIESEL 2.4L .....	Page 156
FUEL INJECTION (Figure 92) DIESEL 2.8L LAST USED ON S/N D177B-8291 .....	Page 158
FUEL INJECTION (Figure 93) DIESEL 3.1L FIRST USED ON S/N D177B-8292 .....	Page 160
FUEL SYSTEM (Figure 68) LPG 2.2L .....	Page 112
GOVERNOR (Figure 72) LPG 3.0L LAST USED ON S/N D177B-39471 .....	Page 120
GOVERNOR (Figure 81) GASOLINE AND LPG 2.0L .....	Page 138
INJECTION PUMP (Figure 87) DIESEL 2.4L, 2.8L, AND 3.1L .....	Page 149
LPG CONVERTER (Figure 95) LAST USED ON S/N D177B-10965 .....	Page 163

---

**FUEL SYSTEM (CONTINUED)**

LPG CONVERTER (Figure 96) FIRST ON S/N D177B-10966 .....	Page 164
LPG MIXER (Figure 73) DUAL FUEL 3.0L .....	Page 122
LPG TANK (Figure 67) .....	Page 110
MONOTROL PEDAL (Figure 102) .....	Page 173
PEDAL LINKAGE (Figure 101) .....	Page 172
THROTTLE BODY INJECTION (Figure 84) GASOLINE 2.2L .....	Page 142
THROTTLE LINKAGE (Figure 100) GASOLINE AND LPG 2.0L .....	Page 171
THROTTLE LINKAGE (Figure 97) DIESEL .....	Page 165
THROTTLE LINKAGE (Figure 98) GASOLINE AND LPG 2.2L .....	Page 166
THROTTLE LINKAGE (Figure 99) GASOLINE AND LPG 3.0L .....	Page 168

## LPG TANK (Figure 67)



**LPG TANK**

REF	PART NO.	NAME OF PART	QTY	REF	PART NO.	NAME OF PART	QTY
1	a	1339769 Strap	1	27	a	136681 Capscrew	1
1	b	1375240 Strap	1	28	h	1325037 Hose	1
2	m	196297 Latch	1	28	k	1388579 Hose	1
2	f	1383574 Latch	1	28	h	864809 Hose	1
3		97999 Disconnect	1	29		1351145 Fitting	1
4	a	1327554 Fitting	1	30		1351146 Fitting	1
4	e	1375231 Fitting	1	31	c	1328890 Tank (LPG, Fuel)	1
4	f	12822 Fitting	1	31	d	1328892 LPG Tank	1
5		101809 Relief Valve	1	32		1337641 Sight Gauge	1
6		147294 Nut	1	33		1337642 Float Gauge	1
7	a	1343434 Bracket	1	34		1337643 Valve	1
7	e	1375201 Bracket	1	35		1337644 Service Valve	1
7	f	1383571 Bracket	1	36		1337645 Fill Valve	1
8		1339706 Bolt	1	37		15483 Fitting	2
9		300939 Spacer	1	38	b	16134 Fitting	1
10		292682 Lockwasher	5	39		221703 Nut	6
11		136692 Nut	3	40		15154 Lockwasher	2
12	a	16863 Fitting	1	41		220961 Setscrew	1
13		15034 Nut	1	42	g	1351133 Switch	1
14	a	1325033 Fitting	1	43	g	190383 Boot	1
14	b	1374601 Fitting	1	44	g	864858 Bracket	1
15		1343421 Bracket	1	45	g	864737 Connector	1
16	a	292683 Lockwasher	1	46	g	1369737 Cap	1
17	a	296130 Nut	1				
18		287854 Capscrew	4	a		Last Used On S/N D177B-15258	
19		316826 Nut	4	b		First Used On S/N D177B-15259	
20		320159 Washer	3	c		Steel Construction	
21	m	1300066 Pin	1	d		Aluminium Construction	
21	f	2022566 Pin	1	e		Used On S/N D177B-15259 Thru D177B-23328	
22	a	252927 Hose	1	f		First Used On S/N D177B-23329	
22	b	1375230 Hose	1	g		Dual Fuel System	
23	a	1347202 Clamp	1	h		Last Used On S/N D177B-35299	
24	a	320157 Washer	2	k		First Used On S/N D177B-35300	
25	a	292681 Lockwasher	1	m		Last Used On S/N D177B-23328	
26	a	239503 Nut	2				





**FUEL SYSTEM**

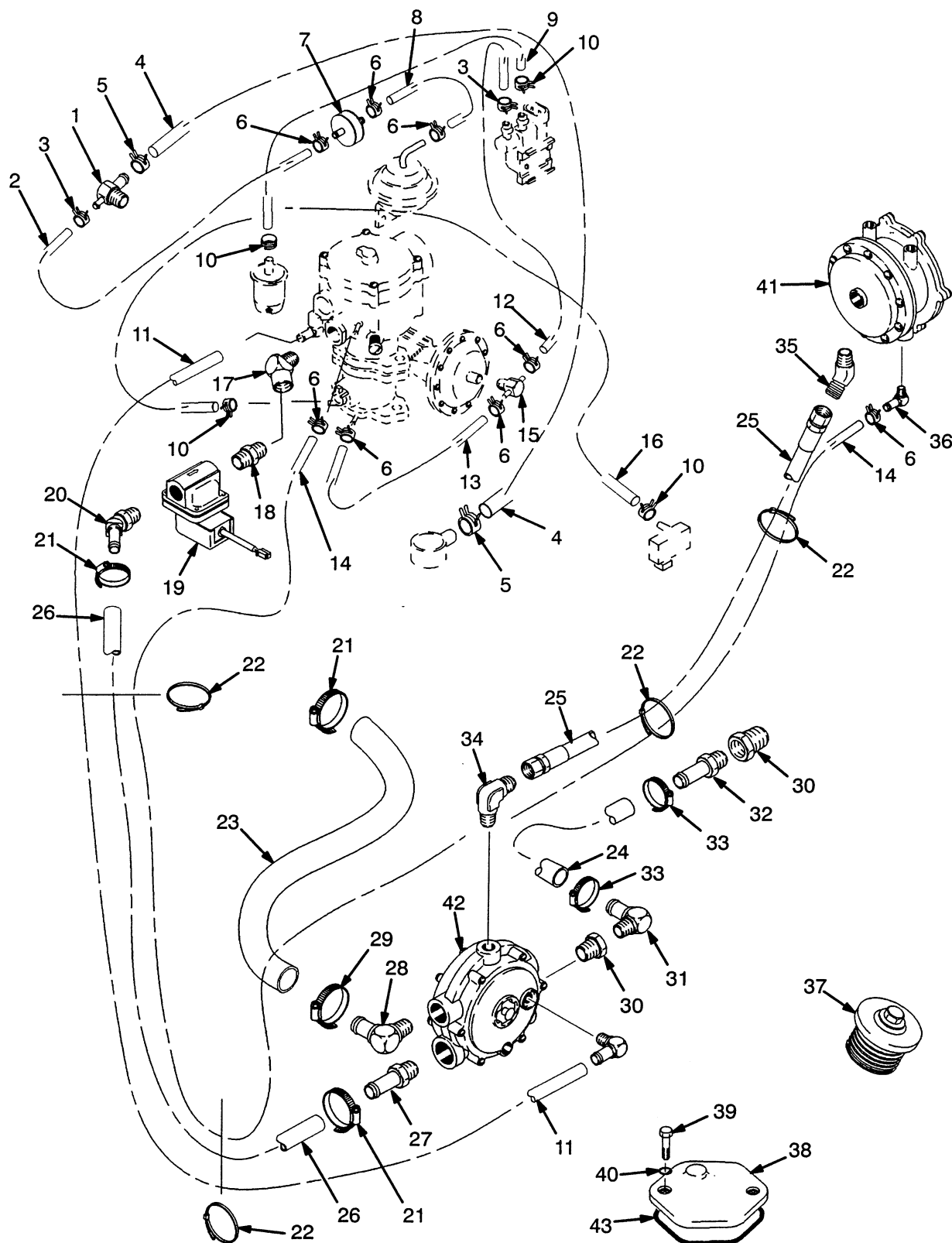
**LPG 2.2L**

REF	PART NO.	NAME OF PART	QTY	REF	PART NO.	NAME OF PART	QTY
1	.....	Carburetor .....	1	33	1345677	Solenoid Valve .....	1
		☞ Figure 85		34	1345676	Bracket .....	1
2	1359452	Gasket .....	1	35	287816	Capscrew .....	2
3 <sup>a</sup>	329700	Hose .....	1	36	292680	Washer .....	2
3 <sup>b</sup>	1381921	Hose .....	1	37	136687	Nut .....	2
4	1347166	Hose .....	1	38	1356391	Spacer .....	1
5	193772	Hose .....	1	39	1354092	Stud .....	2
6	1363896	Hose .....	1	40	136692	Nut .....	2
7	1351084	Hose .....	1	41	320159	Washer .....	2
8	298874	Hose .....	1	42	292682	Washer .....	2
9	14358	Fitting .....	1	43	239503	Nut .....	1
10	1336135	Fitting .....	1	44	1354114	Hose .....	1
11	201800	Fitting .....	2	45	1354117	Hose .....	1
12	17215	Fitting .....	1	46	1352123	Fuel Cap .....	1
13	17217	Fitting .....	1	47	63108	Fitting .....	1
14	130845	Clamp .....	4	48	69815	Fitting .....	1
15	168718	Clamp .....	2	49	372002	Hose .....	2
16	366473	Clamp .....	4	50	1356454	Hose .....	1
17	369815	Clamp .....	8	51	1346872	Actuator .....	1
18	137852	Strap Clamp .....	8	52	1350400	Valve .....	1
19	16863	Fitting .....	1	53	293743	Capscrew .....	2
20	.....	Filter & Lock-Off Valve .....	1	54	316825	Nut .....	2
		☞ Figure 94		55	136681	Capscrew .....	3
21	.....	LPG Converter .....	1	56	292681	Washer .....	3
		☞ Figure 95, Figure 96		57	178119	Clamp .....	1
22	175347	Fitting .....	2	58	1343414	Cover .....	1
23	15351	Fitting .....	1	59	1343449	Seal .....	1
24	1343648	Gasket .....	1	60	353000	O-Ring .....	2
25	377209	Hose .....	1	61	329067	Screw .....	2
26	377210	Hose .....	1	62	1347202	Clamp .....	1
27	1354113	Hose .....	1	63 <sup>c</sup>	16712	Screw .....	4
28	1329146	Fitting .....	1	64 <sup>c</sup>	15152	Lockwasher .....	4
29	1354203	Solenoid Valve .....	1	65 <sup>c</sup>	1376609	Spacer .....	1
29	1369456	Coil .....	1				
29	1369457	Seal Kit .....	1				
30	1347164	Fitting .....	2	<sup>a</sup>	Last Used On S/N D177B-16998		
31	1334847	Filter .....	1	<sup>b</sup>	First Used On S/N D177B-16999		
32	1334845	Clamp .....	1	<sup>c</sup>	High Altitude Performance		

## FUEL (Figure 69)

### LPG 3.0L

LAST USED ON S/N D177B-39471



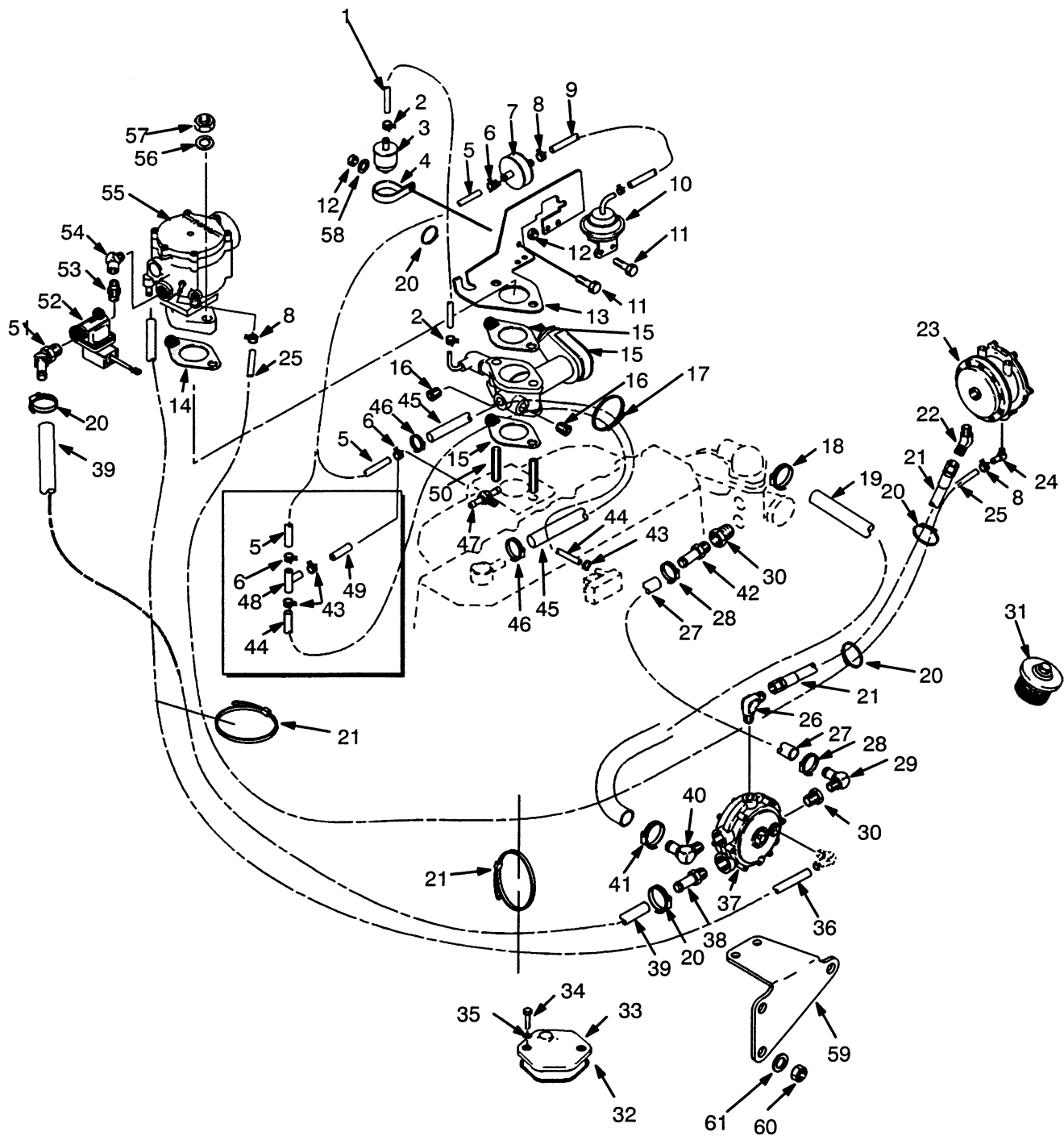
**FUEL**  
**LPG 3.0L**  
**LAST USED ON S/N S/N D177B-39471**

REF	PART NO.	NAME OF PART	QTY	REF	PART NO.	NAME OF PART	QTY
1	1358515	Fitting .....	1	25	113011	Hose .....	1
2	1360841	Hose .....	1	26	1376568	Hose .....	1
3	1333840	Clamp .....	3	27	201797	Fitting .....	1
4	1378537	Hose .....	1	28	125305	Fitting .....	1
5	353198	Clamp .....	2	29	130845	Clamp .....	1
6	366473	Clamp .....	7	30	63108	Fitting .....	2
7	1346874	Check Valve .....	1	31	17215	Fitting .....	1
8	372002	Hose .....	1	32	17217	Fitting .....	1
9	1354117	Hose .....	1	33	168718	Clamp .....	2
10	369815	Clamp .....	4	34	14358	Fitting .....	1
11	1375711	Hose .....	1	35	16863	Fitting .....	1
12	1376570	Hose .....	1	36	175347	Fitting .....	1
13	377209	Hose .....	1	37	1352123	Cap .....	1
14	1375713	Hose .....	1	38 <sup>a</sup>	1343414	Cover .....	1
15	1329146	Fitting .....	1	38 <sup>b</sup>	1451568	Plate .....	1
16	1376571	Hose .....	1	38 <sup>b</sup>	288394	Sealant .....	AR
17	15351	Fitting .....	1	39	329067	Screw .....	2
18	12824	Fitting .....	1	40 <sup>a</sup>	353000	O-Ring .....	2
19	1354203	Solenoid Valve .....	1	41	.....	Filter & Lock-Off Valve .....	1
19	1369456	Coil .....	1			☞ Figure 94	
19	1369457	Seal Kit .....	1	42	.....	LPG Converter .....	1
20	349366	Fitting .....	1			☞ Figure 96	
21	130845	Clamp .....	3	43 <sup>a</sup>	1343449	Seal .....	1
22	137852	Strap Clamp .....	6				
23	1376666	Hose .....	1	<sup>a</sup>	Last Used On S/N D177B-83919		
24	193008	Hose .....	1	<sup>b</sup>	First Used On S/N D177B-83920		

## FUEL (Figure 70)

### LPG 3.0L

FIRST USED ON S/N D177B-39471

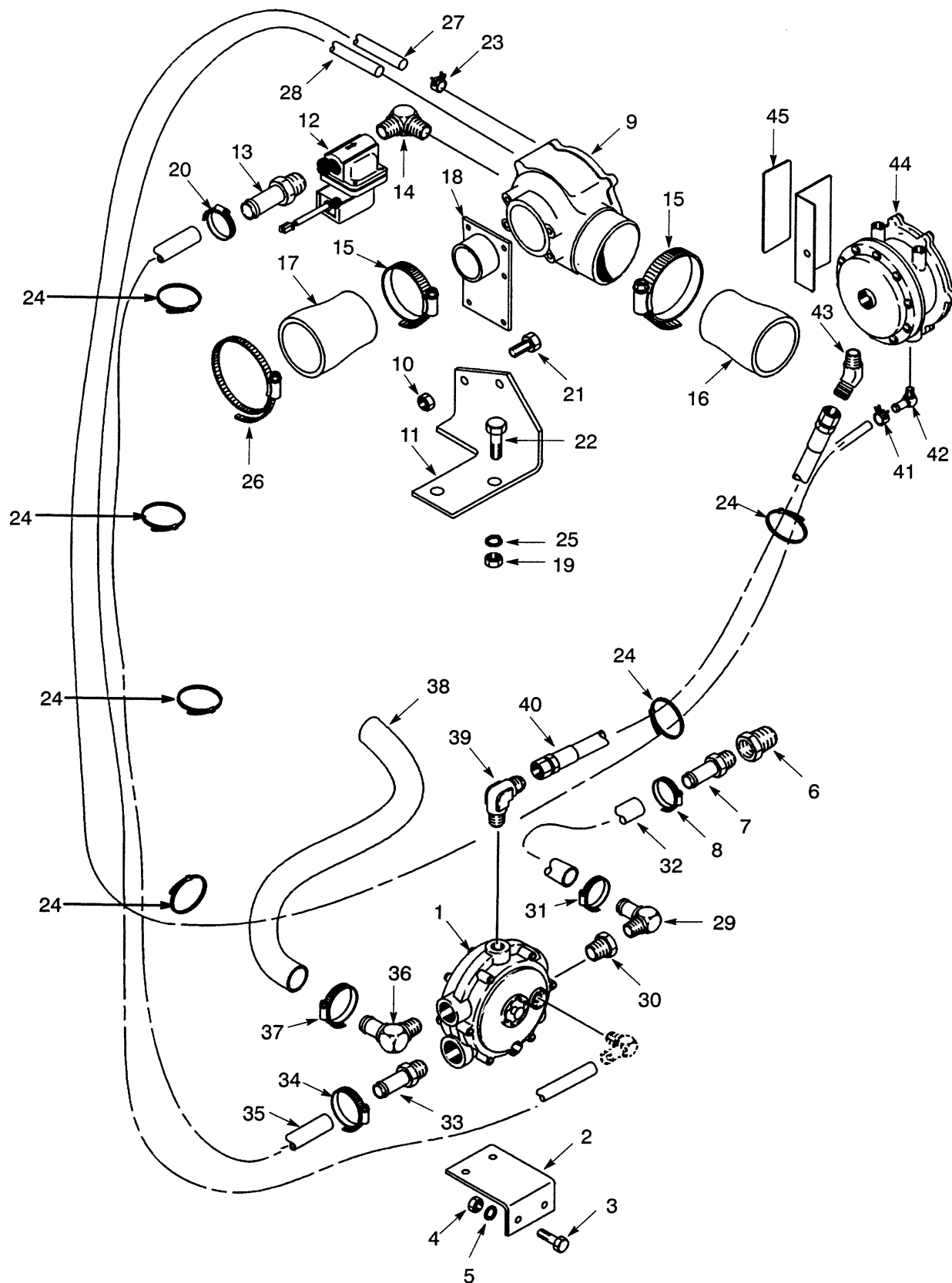


**FUEL**  
**LPG 3.0L**  
**FIRST USED ON S/N D177B-39471**

REF	PART NO.	NAME OF PART	QTY	REF	PART NO.	NAME OF PART	QTY
1	1354117	Hose .....	1	33 <sup>c</sup>	288394	Sealant .....	AR
2	369815	Clamp .....	4	34	329067	Screw .....	2
3	1334847	Filter .....	3	35 <sup>b</sup>	353000	O-Ring .....	2
4	1334845	Clamp .....	1	36	1375711	Hose .....	1
5	1360841	Hose .....	1	37	.....	LPG Converter .....	1
6	1333840	Clamp .....	2			☞ Figure 96,	
6 <sup>a</sup>	1333840	Clamp .....	1	38	201797	Fitting .....	1
7	1350400	Check Valve .....	1	39	1376568	Hose .....	1
8	366473	Clamp .....	7	40	125305	Fitting .....	1
9	377209	Hose .....	1	41	130845	Clamp .....	3
10	1346872	Actuator .....	1	42	17217	Fitting .....	1
11	293743	Capscrew .....	2	43 <sup>a</sup>	369815	Clamp .....	4
12	316825	Nut .....	2	44 <sup>a</sup>	1376571	Hose .....	1
13	1389497	Bracket .....	1	45	329073	Hose .....	1
14	195771	Gasket .....	1	46	353198	Clamp .....	2
15	340405	Governor .....	1	47	1358515	Fitting .....	1
15	181763	Gasket .....	2	48 <sup>a</sup>	2034520	Fitting .....	1
16	14349	Fitting .....	2	49 <sup>a</sup>	1356454	Hose .....	1
16	246108	Sealant .....	AR	50	175323	Stud .....	2
17	137852	Strap Clamp .....	2	51	349366	Fitting .....	1
18	130845	Clamp .....	4	52	1354203	Solenoid Valve .....	1
19	1376666	Hose .....	1	52	1369456	Coil .....	1
20	137852	Strap Clamp .....	6	52	1369457	Seal Kit .....	1
21	113011	Hose .....	1	53	15351	Fitting .....	1
22	16863	Fitting .....	1	54	12824	Fitting .....	1
23	.....	Filter & Lock-Off Valve .....	1	55	.....	Carburetor .....	1
		☞ Figure 94				☞ Figure 86	
24	175347	Fitting .....	1	56	15920	Washer .....	2
25	1375713	Hose .....	1	57	15006	Nut .....	2
26	14358	Fitting .....	1	58	197067	Washer .....	1
27	193008	Hose .....	1	59 <sup>a</sup>	1356513	Bracket .....	1
28	168718	Clamp .....	2	60 <sup>a</sup>	313828	Nut .....	3
29	17215	Fitting .....	1	61 <sup>a</sup>	320158	Washer .....	3
30	63108	Fitting .....	2				
31	1352123	Cap .....	1	<sup>a</sup>	With MSTs		
32 <sup>b</sup>	1343449	Seal .....	1	<sup>b</sup>	Last Used On S/N D177B-83919		
33 <sup>b</sup>	1343414	Cover .....	1	<sup>c</sup>	First Used On S/N D177B-83920		
33 <sup>c</sup>	1451568	Plate .....	1				

## DUAL FUEL (Figure 71)

3.0L



**DUAL FUEL**

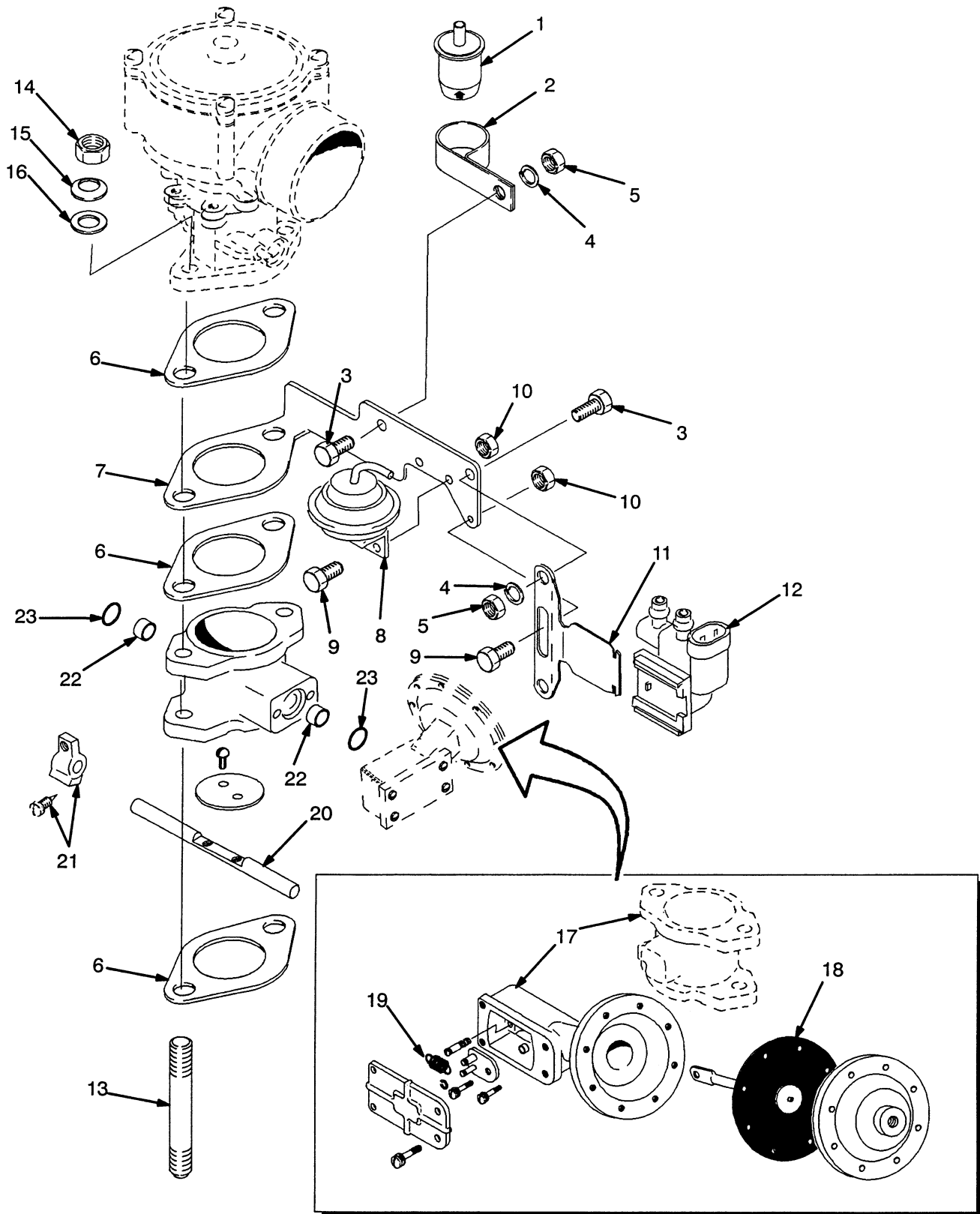
**3.0L**

REF	PART NO.	NAME OF PART	QTY	REF	PART NO.	NAME OF PART	QTY
1	1376792	Regulator Assembly .....	1	23	366473	Clamp .....	1
2	1376794	Bracket .....	1	24	137852	Clamp .....	10
3	287816	Capscrew .....	2	25	292681	Washer .....	2
4	136687	Nut .....	2	26	112989	Clamp .....	1
5	292680	Washer .....	2	27	1378636	Hose .....	1
6	63108	Fitting .....	1	28	1378625	Hose .....	1
7	17217	Hose Nipple .....	1	29	17215	Fitting .....	1
8	168718	Clamp .....	1	30	63108	Fitting .....	1
9	1376795	Carburetor Assembly .....	1	31	168718	Clamp .....	1
9	.....	LPG Mixer .....	1	32	193008	Hose .....	1
		☞ Figure 73		33	201797	Fitting .....	1
10	316825	Nut .....	2	34	130845	Clamp .....	1
11	1378464	Bracket .....	1	35	1378470	Hose .....	1
12	1354203	Solenoid .....	1	36	125305	Fitting .....	1
12	1369456	Coil .....	1	37	130845	Clamp .....	1
12	1369457	Seal Kit .....	1	38	1376666	Hose .....	1
13	201797	Fitting .....	1	39	14358	Fitting .....	1
14	17176	Fitting .....	1	40	113011	Hose .....	1
15	112989	Clamp .....	2	41	366473	Clamp .....	1
16	1384837	Hose .....	1	42	175347	Fitting .....	1
17	1378465	Hose .....	1	43	16863	Fitting .....	1
18	1378463	Adapter .....	1	44	864839	Lockoff Assembly .....	1
19	239503	Nut .....	2	44	.....	Lock And Filter .....	1
20	130845	Clamp .....	1			☞ Figure 94	
21	293743	Capscrew .....	2	45	1358327	Plate .....	1
22	136749	Capscrew .....	2				



## GOVERNOR (Figure 72)

LPG 3.0L  
LAST USED ON S/N D177B-39472

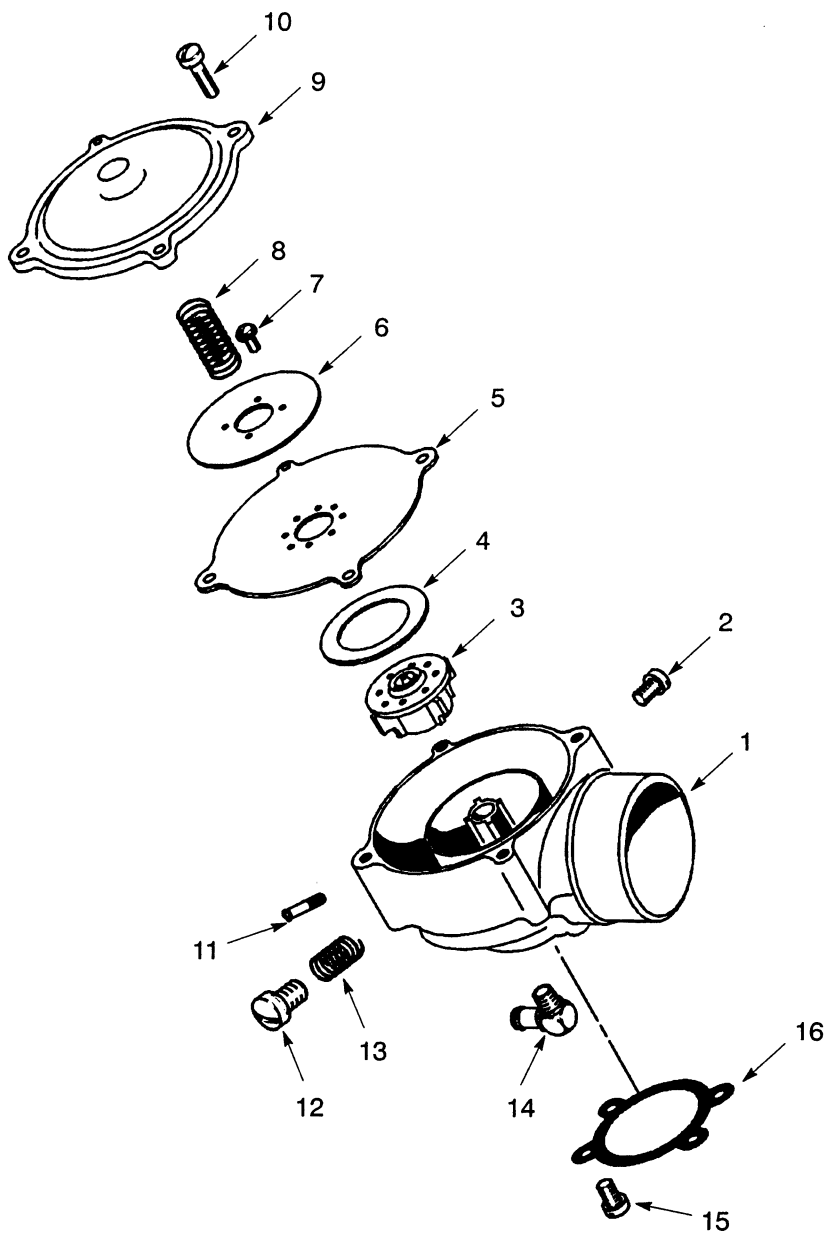


**GOVERNOR**  
**LPG 3.0L**  
**LAST USED ON S/N D177B-39472**

REF	PART NO.	NAME OF PART	QTY	REF	PART NO.	NAME OF PART	QTY
1	1334847	Filter .....	1	13	175323	Stud .....	2
2	1334845	Clamp .....	1	14	15006	Nut .....	2
3	292500	Capscrew .....	2	15	377259	Washer .....	2
4	292680	Lockwasher .....	2	16	15920	Washer .....	2
5	136687	Nut .....	2	17	346329	Governor .....	1
6	195771	Gasket .....	3	18	1339102	Diaphragm Assembly .....	1
7	1371599	Bracket .....	1	19	1333986	Spring .....	1
8	1346872	Actuator (Idle Control) .....	1	20	1333987	Throttle Shaft .....	1
9	293743	Capscrew .....	3	21	374706	Lever Assembly .....	1
10	316825	Nut .....	3	22	374708	Bearing .....	2
11	1345676	Bracket .....	1	23	374709	Ring .....	2
12	1345677	Solenoid Valve .....	1				

## LPG MIXER (Figure 73)

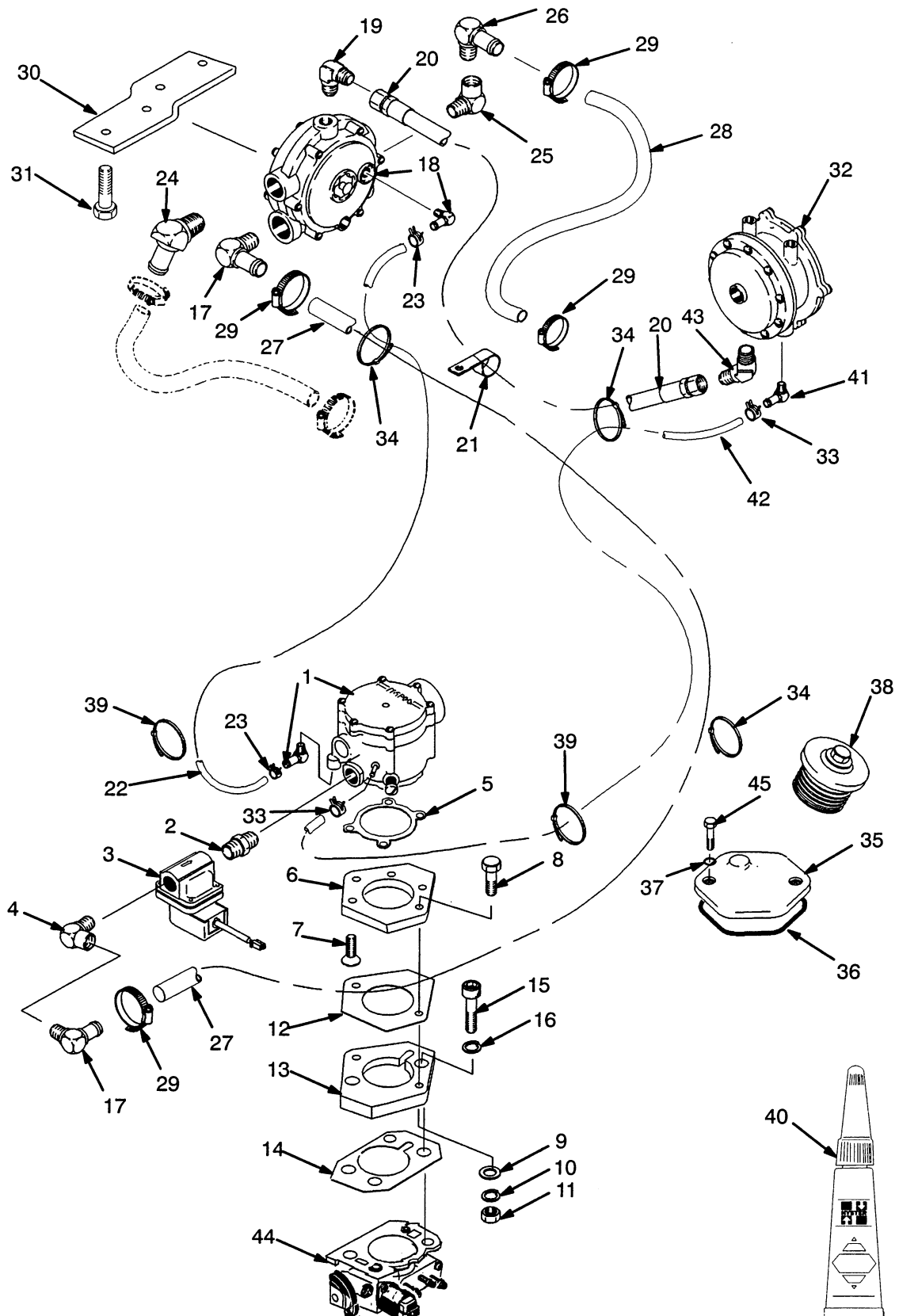
### DUAL FUEL 3.0L



REF	PART NO.	NAME OF PART	QTY	REF	PART NO.	NAME OF PART	QTY
	1378647	Mixer Assembly		9	204780	Cover .....	1
1	250371	Body Assembly .....	1	10	132473	Screw .....	4
2	326926	Screw .....	1	11	323541	Fitting .....	1
3	.....	Valve .....	1	12	326516	Screw .....	1
4	204858	Ring .....	1	13	332277	Spring .....	1
5	1369450	Diaphragm .....	1	14	1361164	Fitting .....	1
6	.....	Plate .....	1	15	204790	Screw .....	4
7	220283	Screw .....	1	16	204787	Gasket .....	1
8	374713	Spring .....	1				

## This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

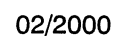
## FUEL (Figure 74) LPG FIELD CONVERSION 2.2L



**FUEL**  
**LPG FIELD CONVERSION 2.2L**

REF	PART NO.	NAME OF PART	QTY	REF	PART NO.	NAME OF PART	QTY
1	1368054	Carburetor (LPG) .....	1	22	864814	Hose (Vacuum) .....	1
1	1361164	Fitting (LPG) .....	1	23	369815	Clamp .....	2
2	15351	Fitting .....	1	24	864816	Fitting .....	1
3	1354203	Solenoid Valve .....	1	25	12947	Fitting .....	1
3	1369456	Coil .....	1	26	16155	Fitting .....	1
3	1369457	Seal Kit .....	1	27	864815	Hose .....	1
4	17324	Fitting .....	1	28	864817	Hose .....	1
5	204787	Gasket .....	1	29	130845	Clamp .....	4
6	1367433	Plate .....	1	30	864818	Plate .....	1
7	220714	Screw .....	4	31	287816	Capscrew .....	2
8	16815	Capscrew .....	2	32	.....	Filter & Lock-Off Valve .....	1
9	15134	Washer .....	2			☞ Figure 94	
10	15156	Lockwasher .....	2	33	366473	Clamp .....	2
11	15056	Nut .....	2	34	137852	Strap Clamp .....	5
12	1367434	Gasket .....	1	35	1343414	Cover .....	1
13	1365894	Plate .....	1	36	1343449	Seal .....	1
14	1367435	Gasket .....	1	37	353000	O-Ring .....	2
15	296021	Capscrew .....	2	38	1352123	Cap .....	1
16	293780	Lockwasher .....	2	39	2004005	Strap Clamp .....	2
17	201800	Fitting .....	2	40	273338	Thread Sealant (50 cc) .....	AR
18	.....	LPG Converter .....	1	41	864810	Fitting .....	1
		☞ Figure 96,		42	864811	Hose (Vacuum) .....	1
19	14358	Fitting .....	1	43	16863	Fitting .....	1
20	1381921	Hose .....	1	44	.....	Throttle Body .....	1
21	1347202	Clamp .....	1			☞ Figure 85	
				45	329067	Screw .....	2

**LPG 2.0L**

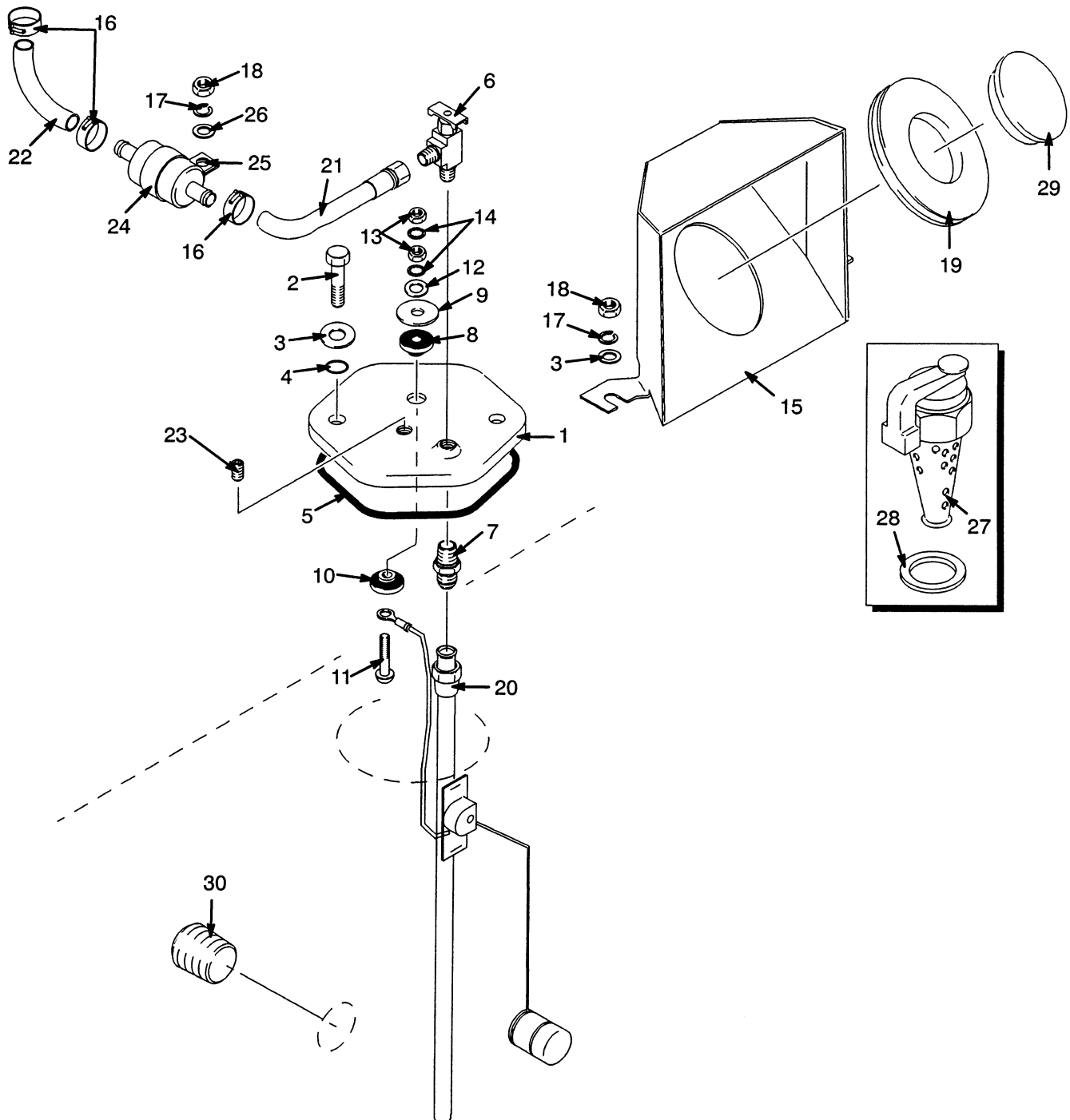


**FUEL**  
**LPG 2.0L**

REF	PART NO.	NAME OF PART	QTY	REF	PART NO.	NAME OF PART	QTY
1	16863	Fitting .....	1	21	293743	Capscrew .....	2
2 <b>a</b>	1343414	Cover .....	1	22	316825	Nut .....	2
2 <b>b</b>	1451568	Plate .....	1	23	201800	Fitting .....	1
2 <b>b</b>	288394	Sealant .....	AR	24	1359460	Stud .....	2
3 <b>a</b>	1343449	Seal .....	1	25	1354336	Gasket .....	1
4 <b>a</b>	353000	O-Ring .....	2	26	113011	Hose .....	1
5	329067	Screw .....	2	27 <b>a</b>	1361088	Hose .....	1
6	1347166	Hose .....	1	27 <b>b</b>	1336137	Hose .....	1
7	14358	Fitting .....	1	28	318375	Hose .....	1
8	130845	Clamp .....	4	29	85785	Hose .....	1
9	168718	Clamp .....	2	30	201797	Fitting .....	1
10	366473	Clamp .....	8	31	.....	Carburetor .....	1
11	137852	Strap Clamp .....	6			☞ Figure 83	
12	1352123	Fuel Cap .....	1	32	175347	Fitting .....	1
13	.....	Fuel Lock & Filter .....	1	33	239503	Nut .....	7
		☞ Figure 94		34	292681	Lockwasher .....	7
14	.....	LPG Converter .....	1	35	296418	Washer .....	5
		☞ Figure 95, Figure 96		36	1356513	Bracket .....	1
15	175347	Fitting .....	2	37	377211	Hose .....	1
16	15351	Fitting .....	1	38	201808	Fitting .....	1
17	1354203	Solenoid Valve .....	1	39	1336135	Fitting .....	1
17	1369456	Coil .....	1	40	1356514	Spacer .....	1
17	1369457	Seal Kit .....	1				
18	372002	Hose .....	2	<b>a</b>	Last Used On S/N D177B-83919		
19	1346872	Actuator .....	1	<b>b</b>	First Used On S/N D177B-83920		
20	1350400	Valve .....	1				



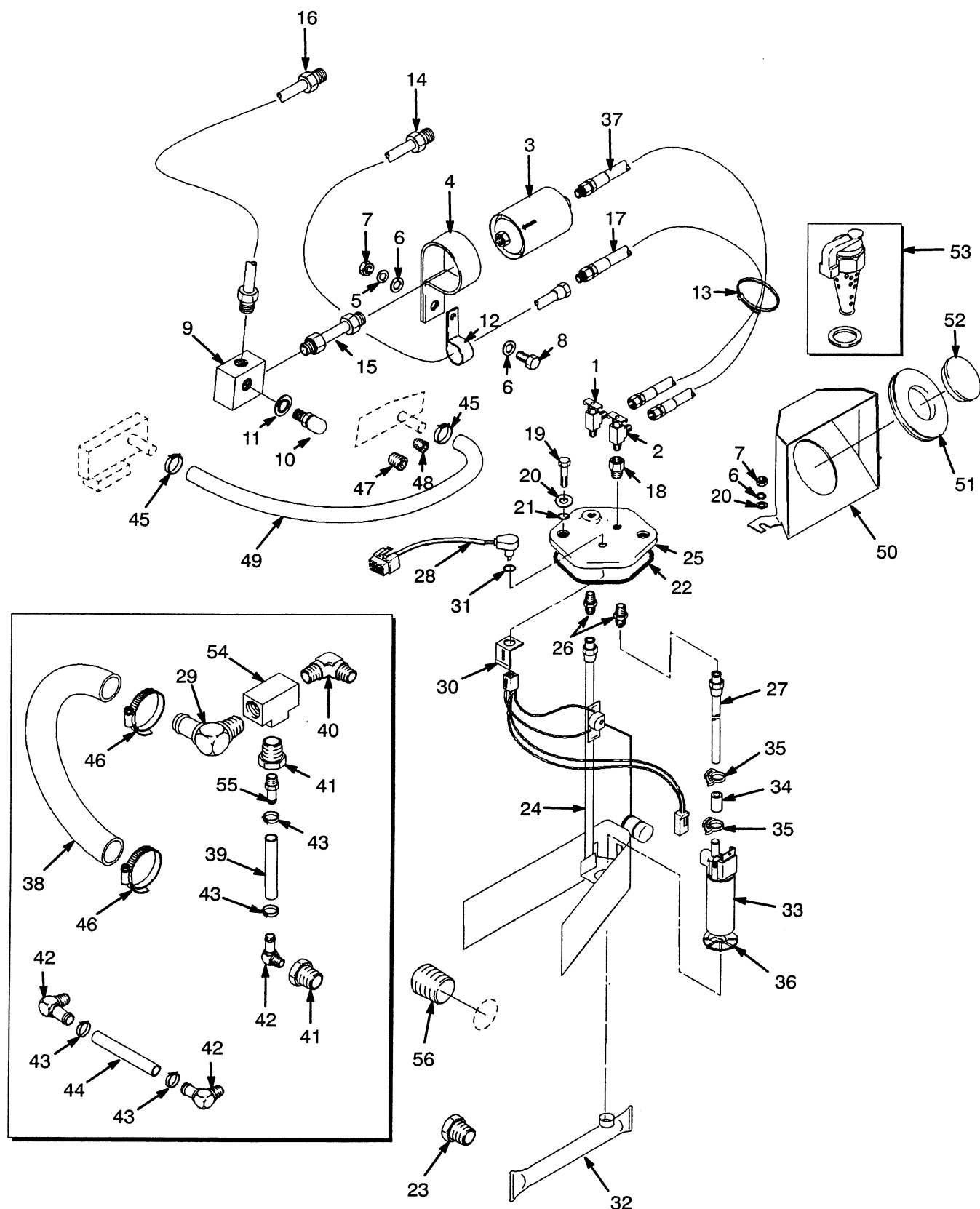
**FUEL (Figure 76)**  
**GASOLINE 2.0L**



**FUEL**  
**GASOLINE 2.0L**

REF	PART NO.	NAME OF PART	QTY	REF	PART NO.	NAME OF PART	QTY
1	1343448	Cover .....	1	17	292681	Lockwasher .....	3
2	329067	Screw .....	2	18	239503	Nut .....	3
3	320157	Washer .....	4	19	1339720	Grommet .....	1
4	353000	O-Ring .....	2	20	1347153	Fuel Sender .....	1
5	1343449	Seal .....	1	21	1351089	Hose .....	1
6	1350286	Valve .....	1	22	1389365	Hose .....	1
7	14303	Fitting .....	1	23	15483	Fitting .....	1
8	1350291	Washer .....	1	24	1304950	Filter .....	1
9	1350290	Washer .....	1	25	1316496	Clamp .....	1
10	1351000	Washer .....	1	26	320158	Washer .....	1
11	1356459	Screw .....	1	27 <sup>a</sup>	63899	Safety Cap .....	1
12	197067	Washer .....	1	28 <sup>a</sup>	138880	Shim .....	AR
13	1350298	Nut .....	2	29	160773	Fuel Cap .....	1
14	1350299	Lockwasher .....	2	30	15964	Fitting .....	1
15	1343550	Shield .....	1				
16	168718	Clamp .....	4	<sup>a</sup>	Optional		

## FUEL (Figure 77) GASOLINE 2.2L

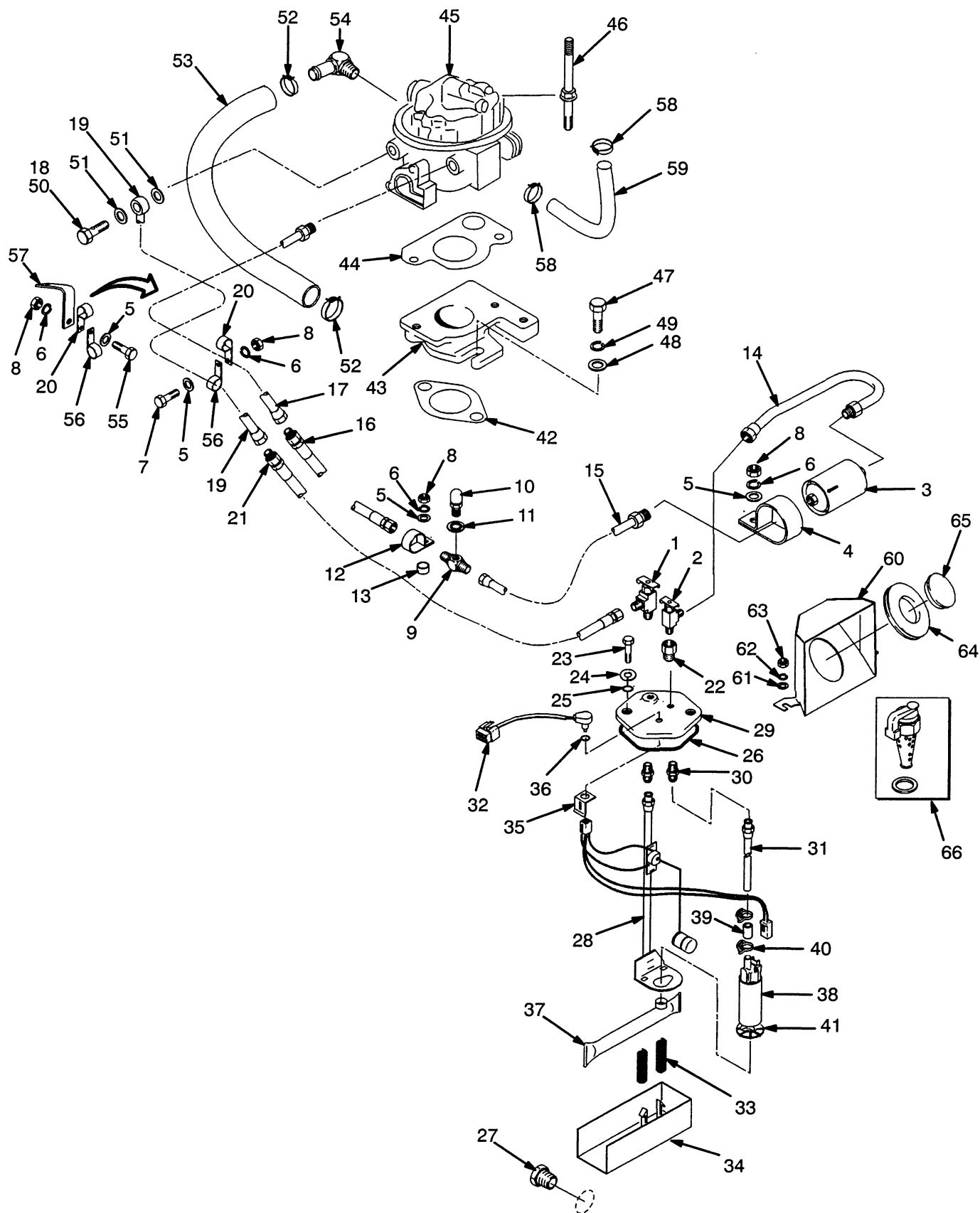


**FUEL**  
**GASOLINE 2.2L**

REF	PART NO.	NAME OF PART	QTY	REF	PART NO.	NAME OF PART	QTY
1	1350286	Valve .....	1	31	1330325	O-Ring .....	1
2	16192	Valve .....	1	32	1327961	Strainer .....	1
3	1330342	Gasoline Filter .....	1	33 <sup>a</sup>	.....	Pump .....	1
4	176451	Clamp .....	1	34 <sup>a</sup>	.....	Coupling .....	1
5	320158	Washer .....	1	35 <sup>a</sup>	.....	Clamp .....	2
6	292681	Lockwasher .....	4	36 <sup>a</sup>	.....	Isolator .....	1
7	239503	Nut .....	3	37	1352144	Hose .....	1
8	136681	Capscrew .....	1	38	129995	Hose .....	1
9	1339425	Fitting .....	1	39	217407	Hose .....	1
10	1345991	Pressure Valve .....	1	40	1356369	Fitting .....	1
11	1339438	Seal .....	1	41	12844	Fitting .....	2
12	198675	Clamp .....	1	42	17343	Fitting .....	1
13	129563	Clamp .....	1	43	366473	Clamp .....	4
14	1352098	Tube .....	1	44	1354356	Hose .....	1
15	1352099	Tube .....	1	45	1333840	Clamp .....	2
16	1352100	Tube .....	1	46	166857	Clamp .....	2
17	1352101	Hose .....	1	47	1333825	Plug .....	1
18	1354259	Fitting .....	1	48	1354265	Plug .....	1
19	329067	Screw .....	2	49	1354114	Hose .....	1
20	320157	Washer .....	4	50	1343550	Shield .....	1
21	353000	O-Ring .....	2	51	1339720	Grommet .....	1
22	1343449	Seal .....	1	52	160773	Fuel Cap .....	1
23	17636	Fitting .....	1	53 <sup>b</sup>	138880	Shim .....	AR
24	1339789	Fuel Sender .....	1	53 <sup>b</sup>	63899	Safety Cap .....	1
25	1343448	Cover .....	1	54	12840	Fitting .....	1
26	14303	Fitting .....	2	55	16746	Fitting .....	1
27	1339759	Tube .....	1	56	15964	Fitting .....	1
28	1330383	Wire Harness .....	1				
29	201800	Fitting .....	1				
30	1330326	Clipnut .....	1				

<sup>a</sup> Included In Fuel Pump Kit 1330324  
<sup>b</sup> Optional

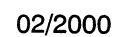
## FUEL (Figure 78) GASOLINE 3.0L



**FUEL**  
**GASOLINE 3.0L**

REF	PART NO.	NAME OF PART	QTY	REF	PART NO.	NAME OF PART	QTY
1	1350286	Valve .....	1	39 <sup>a</sup>	.....	Coupling .....	1
2	16192	Valve .....	1	40 <sup>a</sup>	.....	Clamp .....	2
3	1330342	Filter .....	1	41 <sup>a</sup>	.....	Isolator .....	1
4	176451	Clamp .....	1	42	195771	Gasket .....	1
5	320158	Washer .....	4	43	1375779	Adapter .....	1
6	292681	Lockwasher .....	4	44	1343648	Gasket .....	1
7	136681	Capscrew .....	1	45	1376572	Throttle Body Injection .....	1
8	239503	Nut .....	4	45	1383994	Gasket Kit .....	1
9	1376725	Fitting .....	1	45	1350988	Fuel Injector Kit .....	1
10	1345991	Pressure Valve .....	1	45	1383995	Throttle Position Sensor Kit ....	1
11	1339438	Seal .....	1	45	1383996	Idle Air Valve Kit .....	1
12	89220	Clamp .....	1	45	1350991	Fuel Inlet/Outlet Nut Kit .....	1
13	1301016	Spacer .....	1	45	1358682	Screw Package .....	1
14	1376769	Tube Assembly .....	1	46	1377021	Stud .....	2
15	1376770	Tube Assembly .....	1	47	16805	Capscrew .....	2
16	1376771	Hose .....	1	48	15134	Washer .....	2
17	1376731	Tube Assembly .....	1	49	15156	Lockwasher .....	2
18	360387	Adhesive .....	AR	50	1376614	Screw .....	1
19	1376730	Tube Assembly .....	1	51	1376616	Seal .....	2
20	164488	Clamp .....	2	52	353198	Clamp .....	2
21	1376777	Hose (Return) .....	1	53	85766	Hose .....	1
22	1354259	Fitting .....	1	54	201808	Fitting .....	1
23	329067	Screw .....	2	55	136749	Capscrew .....	1
24	320157	Washer .....	2	56	1376727	Clamp .....	2
25	353000	O-Ring .....	2	57	1376779	Bracket .....	1
26	1343449	Seal .....	1	58	369815	Clamp .....	2
27	15964	Fitting .....	1	59	1350682	Hose (Silicone) .....	1
28	1339789	Fuel Sender .....	1	60	1343550	Shield .....	1
29	1343448	Cover .....	1	61	320157	Washer .....	2
30	14303	Fitting .....	2	62	292681	Lockwasher .....	2
31	1339759	Tube Assembly .....	1	63	239503	Nut .....	2
32	1330383	Wire Harness .....	1	64	1339720	Grommet .....	1
33	1361596	Spring .....	2	65	160773	Cap .....	1
34	1363862	Baffle .....	1	66 <sup>b</sup>	63899	Cap .....	1
35	1330326	Clip .....	1	66 <sup>b</sup>	138880	Shim .....	1
36	1330325	O-Ring .....	1				
37	1327961	Strainer .....	1	<sup>a</sup>	Included In Fuel Pump Kit 1330324		
38 <sup>a</sup>	.....	Pump .....	1	<sup>b</sup>	Optional		

**DIESEL 2.4L**

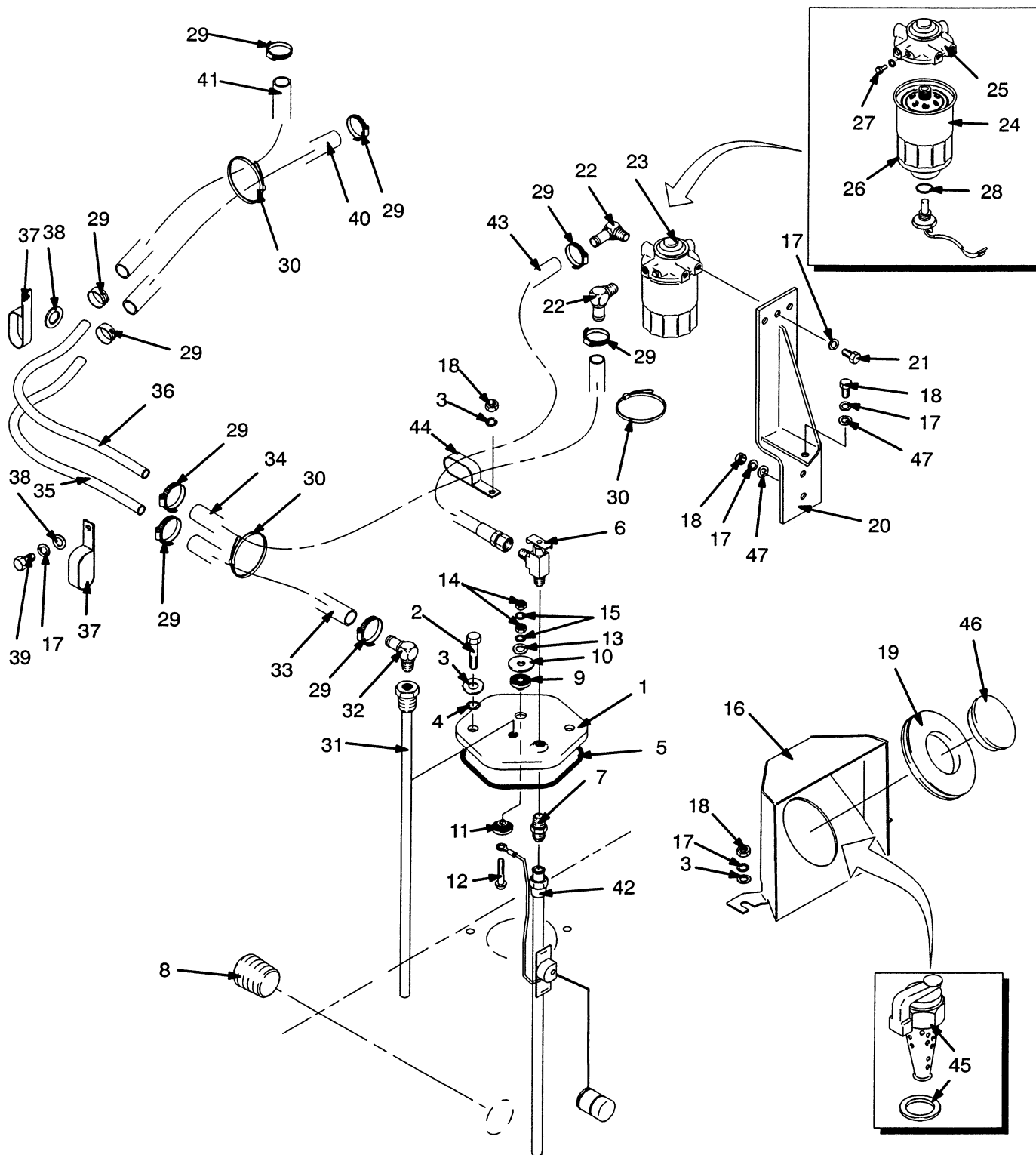


**FUEL**  
**DIESEL 2.4L**

REF	PART NO.	NAME OF PART	QTY	REF	PART NO.	NAME OF PART	QTY
1	1343448	Cover .....	1	24	1327898	Fuel Filter .....	1
2	329067	Screw .....	2	25	1334350	Cartridge Kit .....	1
3	320157	Washer .....	7	25 <sup>b</sup>	1330033	Cartridge .....	1
4	353000	O-Ring .....	2	25 <sup>b</sup>	1334352	Label .....	1
5	1343449	Seal .....	1	26	1374930	Housing .....	1
6	1350286	Valve .....	1	27	1330035	Sensor .....	1
7	14303	Fitting .....	1	28	1330036	Plug .....	1
8	1350291	Washer .....	1	29 <sup>b</sup>	1330037	Gasket .....	1
9	1350290	Washer .....	1	30	1351011	Hose .....	1
10	1351000	Washer .....	1	31	137852	Clamp .....	2
11	1356459	Screw .....	1	32	1350292	Pipe .....	1
12	197067	Washer .....	1	33	17343	Fitting .....	1
13	1350298	Nut .....	2	34	1374611	Clamp .....	2
14	1350299	Lockwasher .....	2	35	296418	Washer .....	2
15	1343550	Shield .....	1	36	296418	Screw .....	2
16	168718	Clamp .....	5	37	1320922	Hose .....	1
17	292681	Lockwasher .....	8	38	1301601	Hose .....	1
18	239503	Nut .....	5	39 <sup>a</sup>	63899	Safety Cap .....	1
19	1339720	Grommet .....	1	39 <sup>a</sup>	138880	Shim .....	AR
20	1347153	Fuel Sender .....	1	40	157704	Cap .....	1
21	1350226	Bracket .....	1				
22	136681	Capscrew .....	2	<sup>a</sup>	Optional		
23	222480	Fitting .....	2	<sup>b</sup>	Included In Repair Kit 996423		



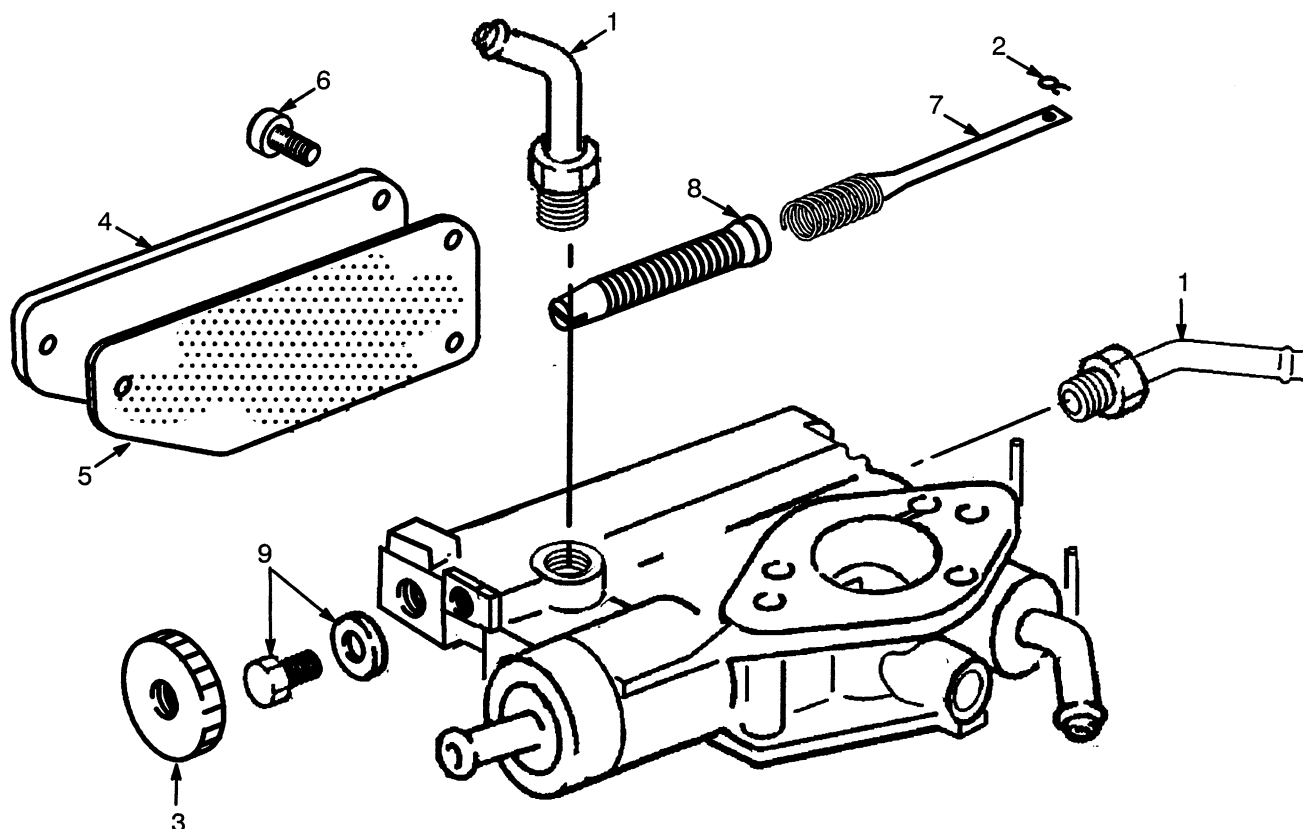
## FUEL (Figure 80) DIESEL 3.1L



**FUEL**  
**DIESEL 3.1L**

REF	PART NO.	NAME OF PART	QTY	REF	PART NO.	NAME OF PART	QTY
1	1343448	Cover .....	1	26	1330035	Sensor .....	1
2	329067	Screw .....	2	27	1330036	Plug .....	1
3	320157	Washer .....	7	28 <b>b</b>	1330037	Gasket .....	1
4	353000	O-Ring .....	2	29	168718	Clamp .....	9
5	1343449	Seal .....	1	30	137852	Strap Clamp .....	3
6	1350286	Valve .....	1	31	1350292	Pipe .....	1
7	14303	Fitting .....	1	32	17343	Fitting .....	1
8	15964	Fitting .....	1	33	1303195	Hose .....	1
9	1350291	Washer .....	1	34	392800	Hose .....	1
10	1350290	Washer .....	1	35	1373822	Fuel Line .....	1
11	1351000	Washer .....	1	36	1373823	Fuel Line .....	1
12	1356459	Screw .....	1	37	1374611	Clamp .....	2
13	197067	Washer .....	1	38	296418	Washer .....	2
14	1350298	Nut .....	2	39	287851	Capscrew .....	1
15	1350299	Lockwasher .....	2	40	1374615	Hose .....	1
16	1343550	Splash Shield .....	1	41	1301601	Hose .....	1
17	292681	Lockwasher .....	8	42	1347153	Fuel Sender .....	1
18	239503	Nut .....	5	43	1359437	Hose .....	1
19	1339720	Grommet .....	1	44	119074	Clamp .....	1
20	1350226	Bracket .....	1	45 <b>a</b>	63899	Safety Cap .....	1
21	136681	Capscrew .....	2	45 <b>a</b>	138880	Shim .....	AR
22	222480	Fitting .....	2	46	157704	Cap .....	1
23	1327898	Fuel Filter .....	1	47	320158	Washer .....	2
24	1334350	Cartridge Kit .....	1				
24 <b>b</b>	1330033	Cartridge .....	1	<b>a</b>	Optional		
24 <b>b</b>	1334352	Label .....	1	<b>b</b>	Included In Repair Kit 996423		
25	1374930	Housing .....	1				

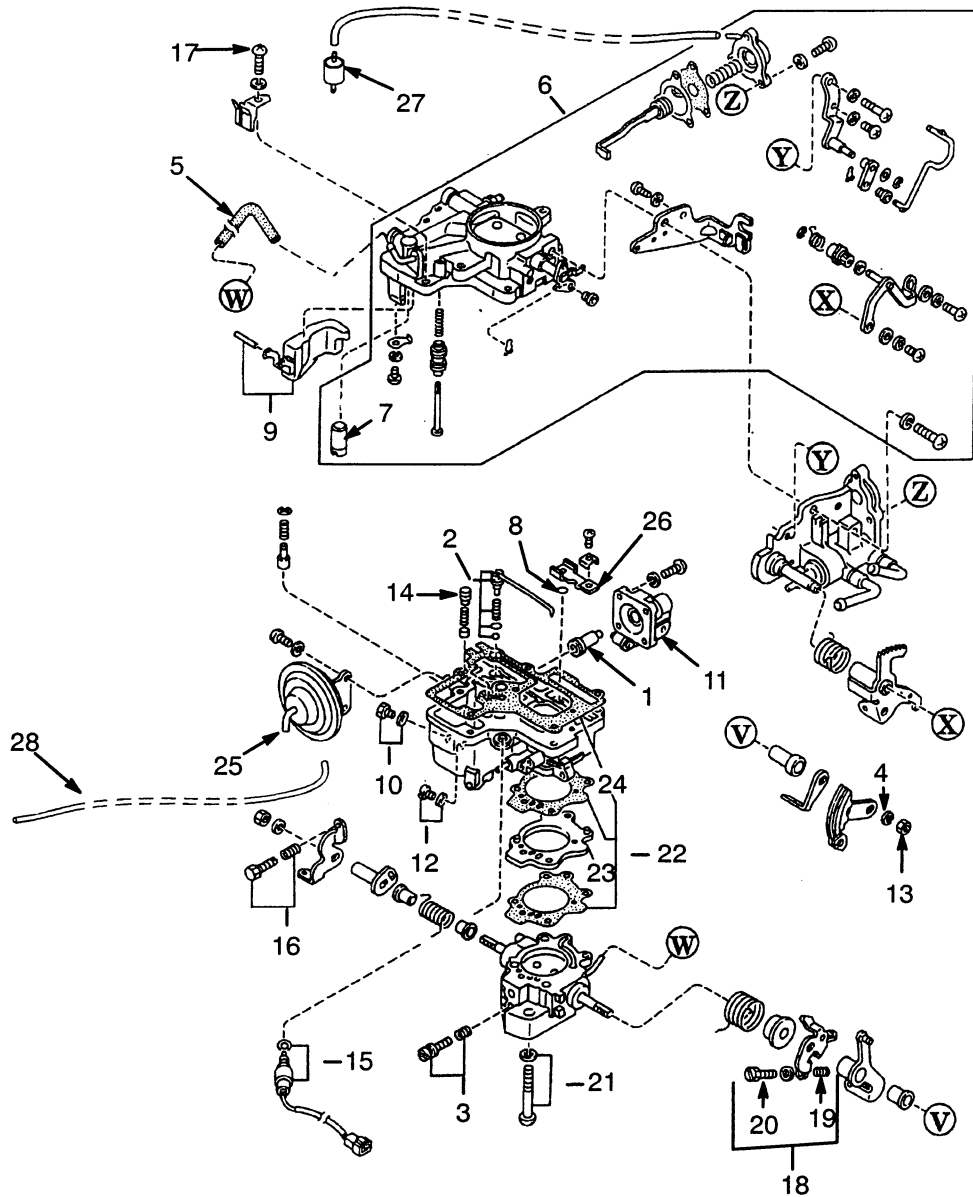
**GOVERNOR (Figure 81)**  
**GASOLINE AND LPG 2.0L**



REF	PART NO.	NAME OF PART	QTY	REF	PART NO.	NAME OF PART	QTY
	1361751	Governor .....	1	5	1367523	Gasket .....	1
1	1367517	Connector .....	2	6	1367524	Screw .....	3
2	1367519	Snap Ring .....	1	7	1367525	Spring .....	1
3	1367520	Bushing .....	1	8	1367526	Screw .....	1
4	1367522	Cover .....	1	9	1367527	Bolt .....	1

## CARBURETOR (Figure 82)

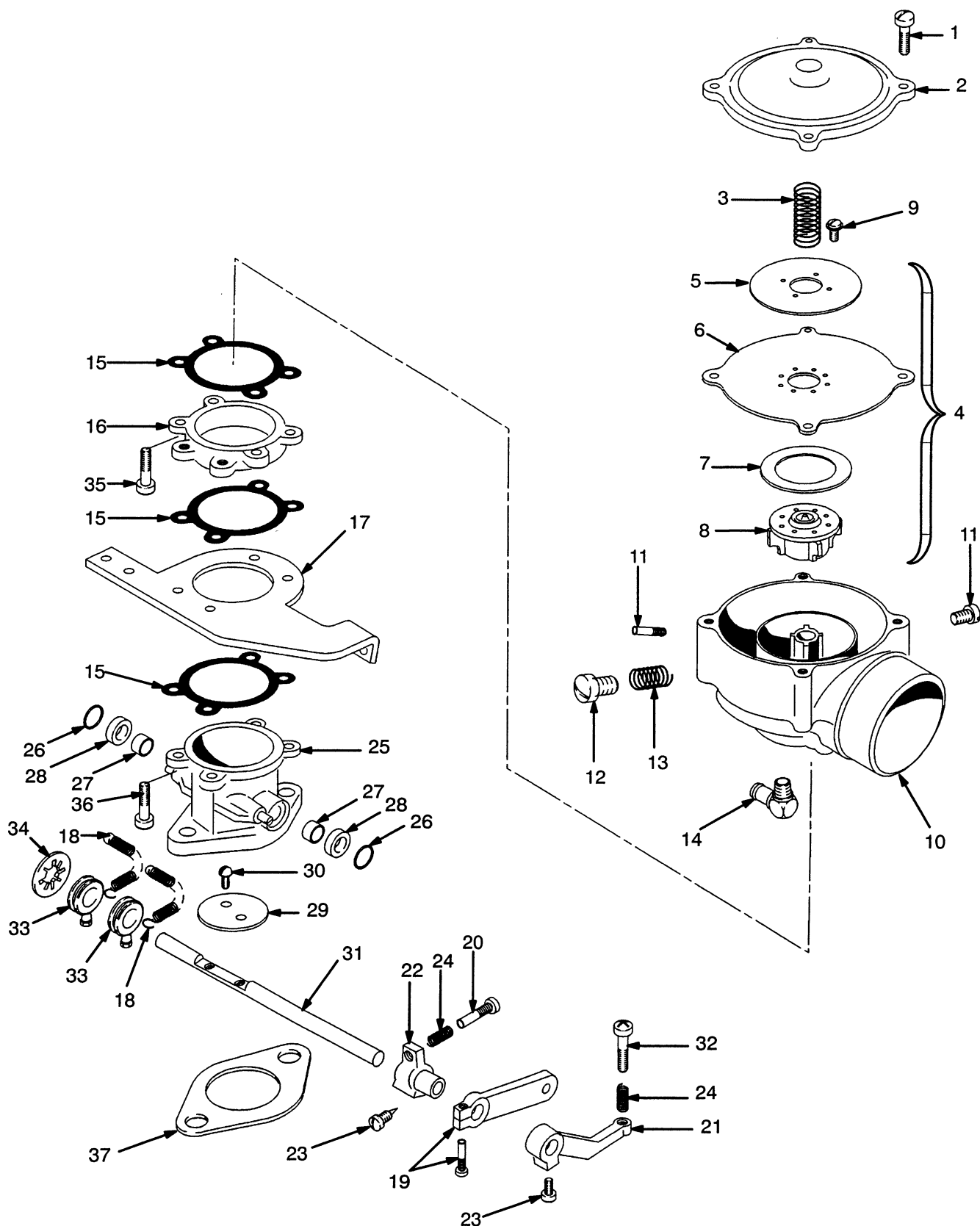
### GASOLINE 2.0L



REF	PART NO.	NAME OF PART	QTY	REF	PART NO.	NAME OF PART	QTY
	1460225	Carburetor	1	14	1361781	Slow Jet	1
1	1361768	Plunger Set	1	15	1361782	Solenoid Valve	1
2	1361769	Nozzle Set	1	16	1361783	Idle Screw	1
3	1361770	Screw Set	1	17	1361784	Screw & Washer	1
4	1361772	Washer	2	18	1361785	Throttle Adjustment Screw	1
5	1361773	Vacuum Hose	1	19	2037064	Screw	1
6	1361774	Air Horn	1	20	2037065	Screw	1
7	1361771	Power Jet	1	21	1361786	Screw Set	1
8	1361775	O-Ring	1	22	1361787	Gasket Set	1
9	1361776	Float	1	23	2037066	Gasket	1
10	1361777	Drain Plug	1	24	2037067	Insulator	1
11	1382673	Pump Arm	1	25	1361788	Vacuum Diaphragm	1
12	1361779	Main Jet	1	26	1361789	Idle Compensator	1
13	1361780	Nut	2	27	1390858	Cushion Jet	1
				28		Tube (Vacuum)	1

## CARBURETOR (Figure 83)

LPG 2.0L



**CARBURETOR**  
**LPG 2.0L**

**KEY:**

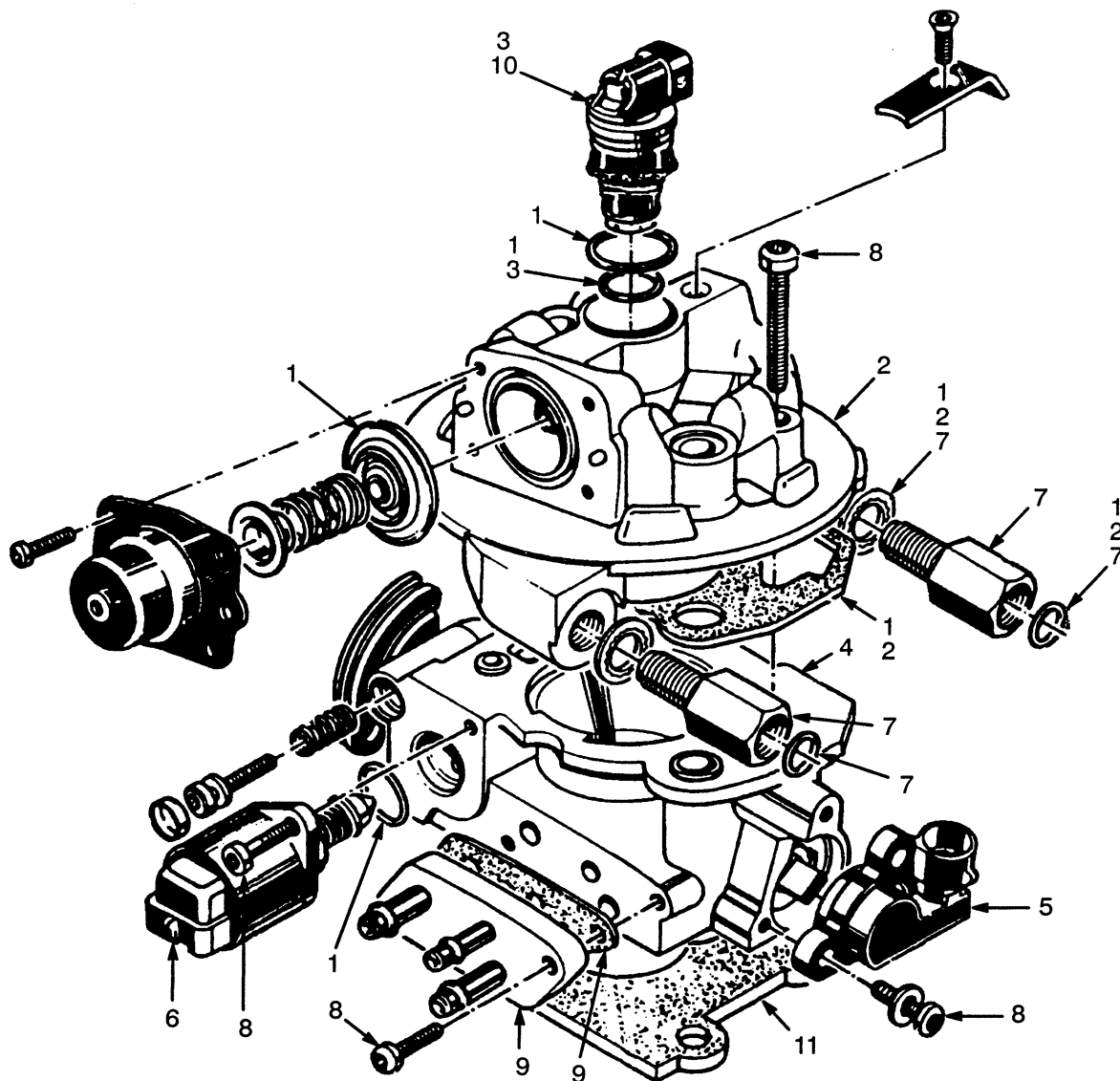
**A: Last Used On S/N D177B-15620**

**B: First Used On S/N D177B-15621**

**C: 3-Way Type Carburetor**

REF	PART NO.	NAME OF PART	QTY			REF	PART NO.	NAME OF PART	QTY		
			A	B	C				A	B	C
	1356523	Carburetor .....	1	..	..	18	1358245	Spring .....	2	2	2
	1376621	Carburetor .....	1	..	..	19	1358238	Lever .....	1	..	..
	1377689	Carburetor .....	..	1	..	19	1375905	Lever .....	1	..	..
1	132473	Screw .....	4	4	4	19	.....	Lever .....	..	1	..
2	204780	Cover .....	1	1	1	20	1358244	Screw .....	1	..	..
3	374713	Spring .....	1	1	1	20	16751	Screw .....	1	1	1
4	1453779	Valve & Diaphragm Kit ....	1	1	..	21	1358241	Floating Lever .....	1	1	1
4	1382974	Valve & Diaphragm Kit .....	..	1	..	22	1358242	Stop Lever .....	1	1	1
5	.....	Back-Up Plate .....	1	1	..	23	1358243	Screw .....	4	4	2
6	1369038	Diaphragm .....	1	1	..	24	204824	Spring .....	2	2	2
7	204858	Ring .....	1	1	..	25	1358240	Throttle Body .....	1	1	1
8	.....	Valve .....	1	1	..	26	204797	Retainer .....	2	2	2
9	220283	Screw .....	4	4	..	27	204796	Seal .....	2	..	..
10	250371	Air Horn .....	1	1	..	27	1382059	Seal .....	2	2	2
10	1383600	Air Horn .....	..	1	..	28	214121	Bearing .....	2	2	2
11	326926	Screw .....	1	1	..	29	241074	Fly .....	1	1	1
12	326516	Idle Screw .....	1	1	..	30	12490	Screw .....	2	2	2
12	1383601	Idle Screw .....	..	1	..	31	.....	Shaft .....	1	1	1
13	332277	Spring .....	1	1	..	32	1374057	Screw .....	1	1	..
13	1383602	Nut .....	..	1	..	32	1358244	Screw .....	..	1	..
14	1361164	Fitting .....	1	1	..	33	387478	Bushing .....	1	2	..
14	323541	Fitting .....	..	2	..	34	387480	Retainer .....	1	1	..
15	204787	Gasket .....	3	3	3	35	387481	Screw .....	4	4	4
16	303072	Spacer .....	1	1	1	36	204790	Screw .....	4	4	4
17	1358239	Bracket .....	1	1	1	37	195771	Mounting Gasket .....	1	1	1

## THROTTLE BODY INJECTION (Figure 84) GASOLINE 2.2L



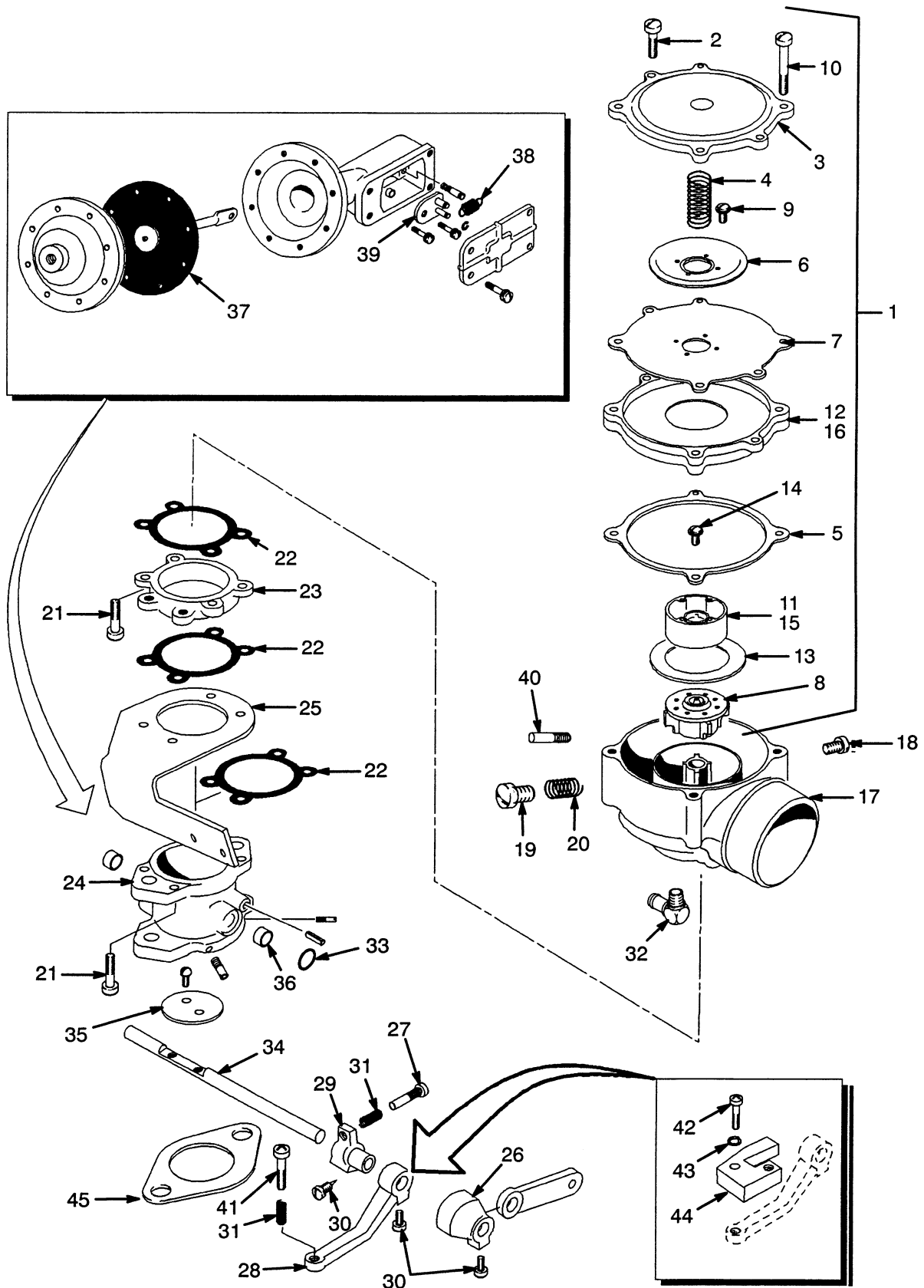
REF	PART NO.	NAME OF PART	QTY
	1343643	Throttle Body Injection .....	1
1	1350986	Throttle Body Injection Kit .....	1
2	1350987	Fuel Meter Kit .....	1
3	1350988	Fuel Injector Kit .....	1
4	1350989	Throttle Body Kit .....	1
5	1337978	Throttle Position Sensor Kit ....	1
6	1350990	Idle Air Control Kit .....	1
7	1350991	Fuel Inlet & Outlet Nut Kit .....	1

REF	PART NO.	NAME OF PART	QTY
8	1358682	Screw Package .....	1
9	1358683	Tube Module Package .....	1
10	1358684	Throttle Body Replacement Kit ..	1
11 a	1360748	Gasket .....	1
11 b	1377022	Gasket .....	1
a	Engine 1335942		
b	Engine 1375902		

## This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.



## CARBURETOR (Figure 85) LPG 2.2L



**CARBURETOR**

**LPG 2.2L**

**KEY:**

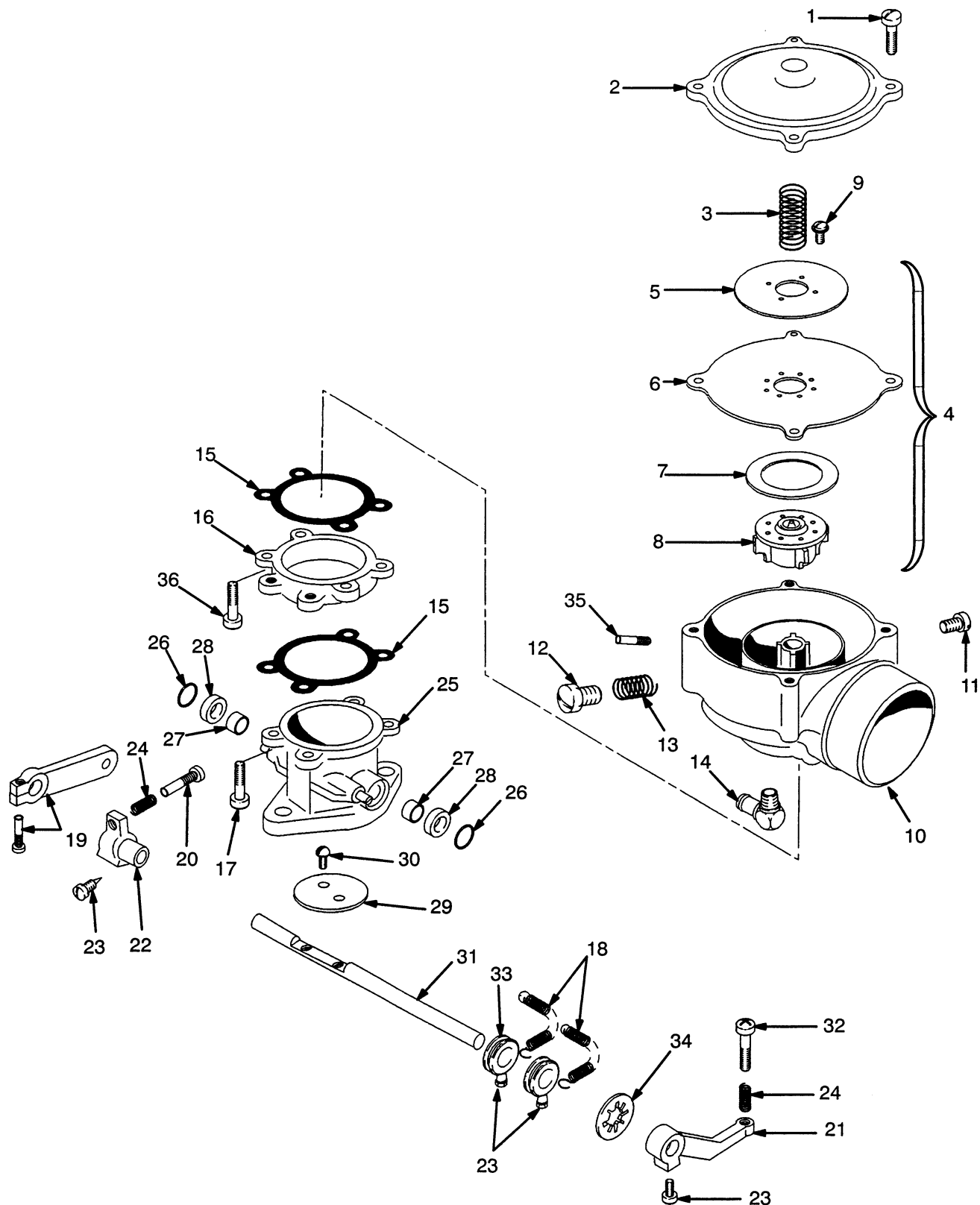
**A: Standard**

**B: High Altitude Performance**

REF	PART NO.	NAME OF PART	QTY		REF	PART NO.	NAME OF PART	QTY	
			A	B				A	B
	a	1354096 Carburetor .....	1	..	23	303072	Spacer .....	1	1
	b	1368981 Carburetor .....	1		24	1358228	Governor .....	1	1
1	b	1374056 Mixer Assembly .....	1	..	25	.....	Bracket .....	1	1
2		132473 Screw .....	2	2	26	1342997	Clamp (Lever) .....	1	1
3		..... Cover .....	1	1	27	1358244	Screw .....	1	1
4		204781 Spring .....	1	1	28	1358241	Floating Lever .....	1	1
5		1358233 Gasket .....	1	1	29	1358242	Stop Lever .....	1	1
6		1358235 Back-Up Plate .....	1	1	30	1358243	Screw .....	3	3
7		1358231 Diaphragm .....	1	1	31	204824	Spring .....	2	2
8		1369049 Valve .....	1	..	32	1361164	Fitting .....	1	1
8		..... Valve .....	..	1	33	374709	Ring .....	1	1
9		12490 Screw .....	4	4	34	.....	Shaft .....	1	1
10		1358236 Screw .....	4	4	35	.....	Fly .....	1	1
11		1358237 Spacer .....	1	..	36	374708	Bearing .....	2	2
12		1358234 Plate .....	1	..	37	1339102	Diaphragm .....	1	1
13		204858 Ring .....	1	1	38	1370941	Spring .....	1	1
13		1369048 Ring .....	3	3	39	.....	Lever .....	1	1
14		220283 Screw .....	4	4	40	323541	Fitting .....	1	1
15		..... Spacer .....	..	1	41	1374057	Screw .....	1	1
16		..... Plate .....	..	1	42	16703	Screw .....	..	1
17		250371 Air Horn .....	1	1	43	15152	Lockwasher .....	..	1
18		326926 Screw .....	1	1	44	1376607	Spacer .....	..	1
19		326516 Screw (Idle) .....	1	1	45	195771	Mounting Gasket .....	1	1
20		332277 Spring .....	1	1					
21		204790 Screw .....	8	8	a	Last Used On S/N D177B-6314			
22		204787 Gasket .....	3	3	b	First Used On S/N D177B-6315			

## CARBURETOR (Figure 86)

LPG 3.0L

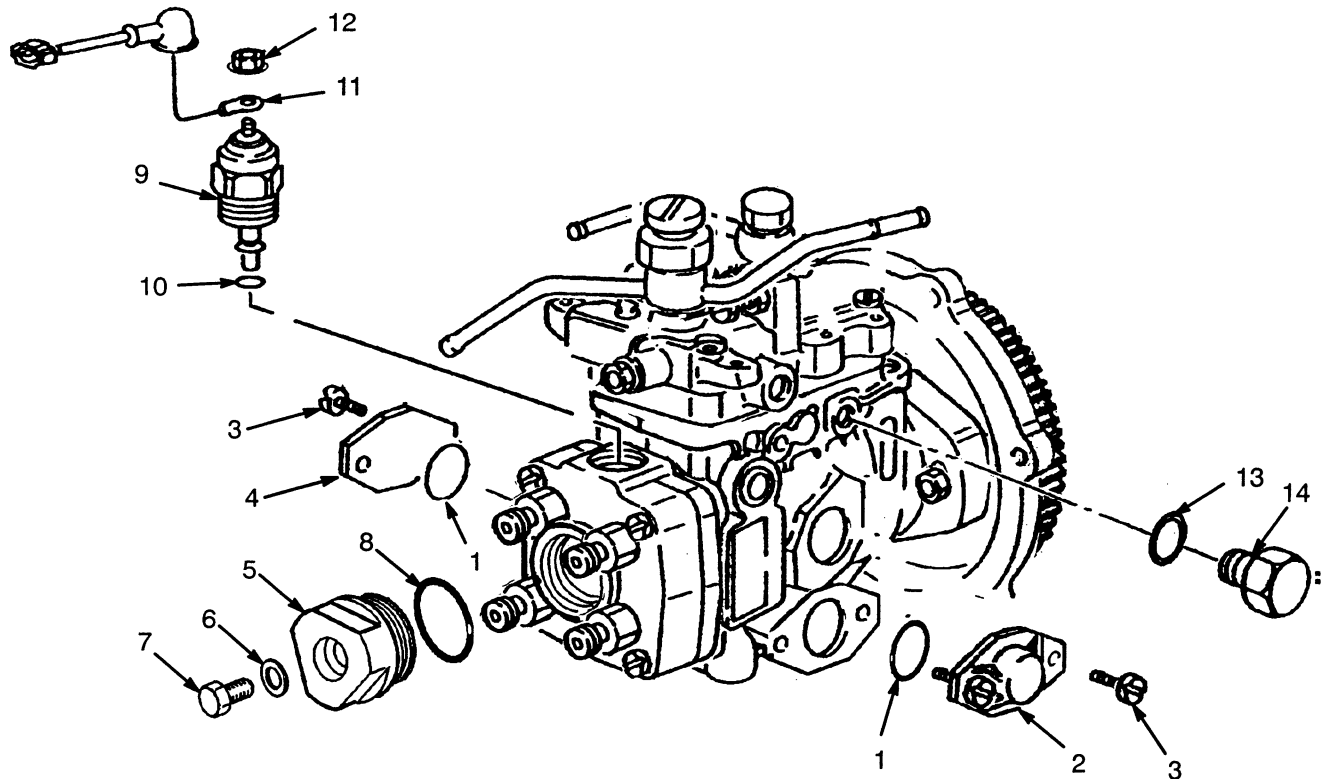


**CARBURETOR**  
**LPG 3.0L**

REF	PART NO.	NAME OF PART	QTY	REF	PART NO.	NAME OF PART	QTY
a	1371592	Carburetor .....	1	20	16751	Screw .....	1
b	1389498	Carburetor .....	1	21	1358241	Floating Lever .....	1
1	132473	Screw .....	4	22	1358242	Stop Lever .....	1
2	204780	Cover .....	1	23	1358243	Screw .....	4
3	374713	Spring .....	1	24	204824	Spring .....	2
4 a	1385712	Air-Gas Valve Assembly .....	1	25 a	1385719	Throttle Body .....	1
4 b	1452798	Air-Gas Valve Assembly .....	1	25 b	1455262	Throttle Body .....	1
5	.....	Back-Up Plate .....	1	26 a	204797	Retainer .....	2
6	1369450	Diaphragm .....	1	27 a	1382059	Seal .....	2
7	204858	Ring .....	1	28 a	214121	Bearing .....	2
8	.....	Valve .....	1	29 a	241074	Fly .....	1
9	220283	Screw .....	4	30 a	12490	Screw .....	2
10	250371	Air Horn .....	1	31 a	.....	Shaft .....	1
11	326926	Screw .....	1	32	1374057	Screw .....	1
12	326516	Idle Screw .....	1	33	387478	Bushing .....	2
13	332277	Spring .....	1	34	387480	Retainer .....	1
14	1361164	Fitting .....	1	35	323541	Fitting .....	1
15	204787	Gasket .....	2	36	204790	Screw .....	4
16	303072	Spacer .....	1				
17	387481	Screw .....	4	a	Last Used On S/N D177B-39471		
18	1358245	Spring .....	2	b	First Used On S/N D177B-39472		
19	1380268	Throttle Assembly .....	1				

[illegible]

**INJECTION PUMP (Figure 87)**  
**DIESEL 2.4L, 2.8L, AND 3.1L**

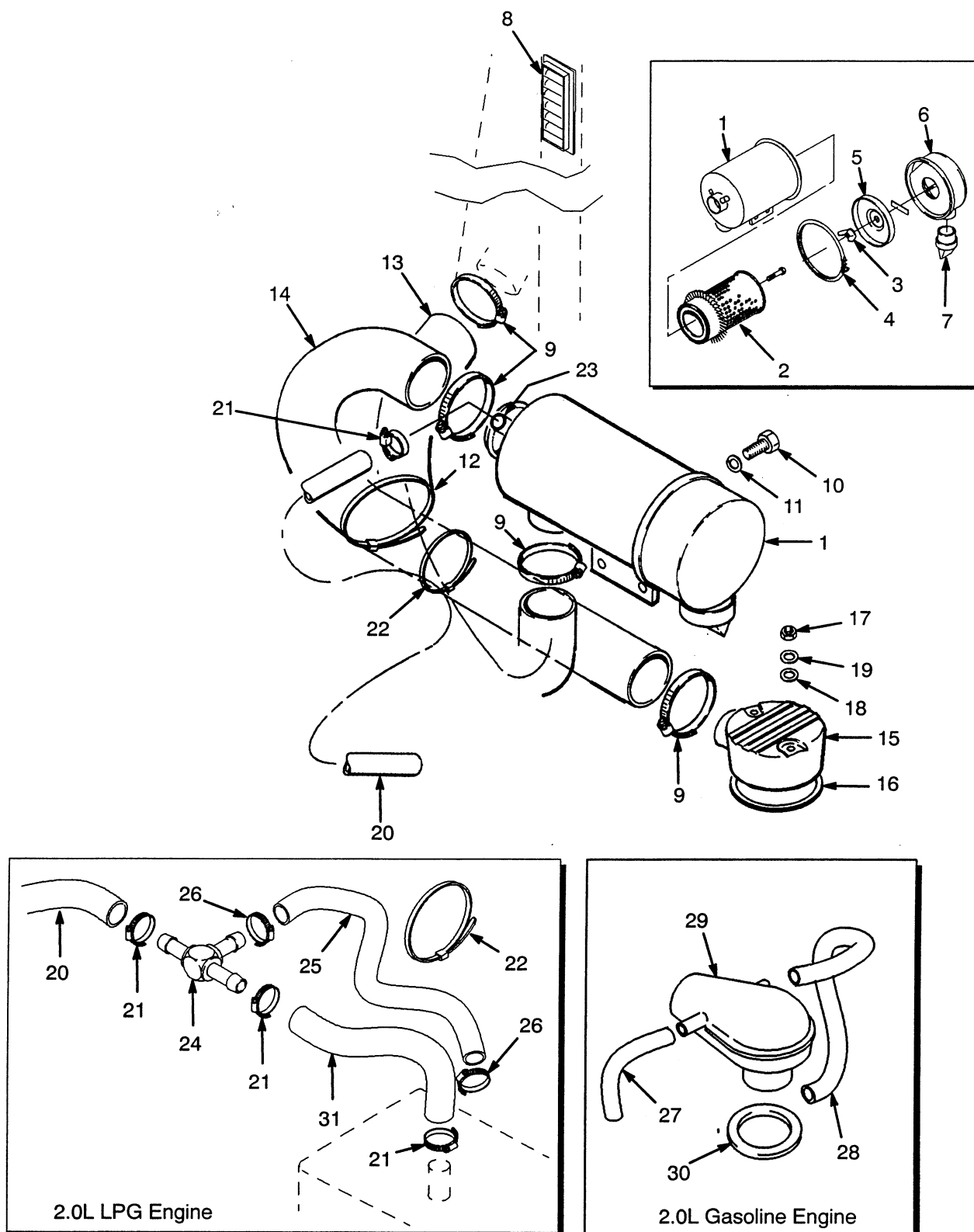


**KEY:**

**A:** Last Used On S/N D177B-8291  
**B:** First Used On S/N D177B-8292  
**C:** Used On Engine 1335948

REF	PART NO.	NAME OF PART	QTY			REF	PART NO.	NAME OF PART	QTY		
			A	B	C				A	B	C
	1342752	Injection Pump (2.8L) .....	1	..	..	7	1342787	Bolt .....	1	..	..
	1374967	Injection Pump (3.1L) .....	1	..	..	7	1334200	Bolt .....	1	1	1
	1357184	Injection Pump (2.4L) .....	..	1	..	8	1334201	O-Ring .....	1	1	1
1	1334026	O-Ring .....	2	2	2	9	1334212	Solenoid (Fuel Shut-Off) ..	1	1	1
2	1334027	Cover .....	1	1	1	10	1334213	O-Ring .....	1	1	1
3	1334028	Bolt .....	4	4	4	11	1334214	Wire .....	1	1	1
4	1334029	Cover .....	1	1	1	12	1334215	Nut .....	1	1	1
5	1342786	Plug .....	1	..	..	13	1334232	O-Ring .....	1	1	1
5	1334199	Plug .....	1	1	1	14	1342819	Plug .....	1	1	..
6	1334142	Gasket .....	1	1	1	14	1334231	Plug .....	..	1	1

## AIR FILTER (Figure 88) GASOLINE AND LPG 2.0L AND 2.2L



**AIR FILTER**  
**GASOLINE AND LPG 2.0L AND 2.2L**

**KEY:**

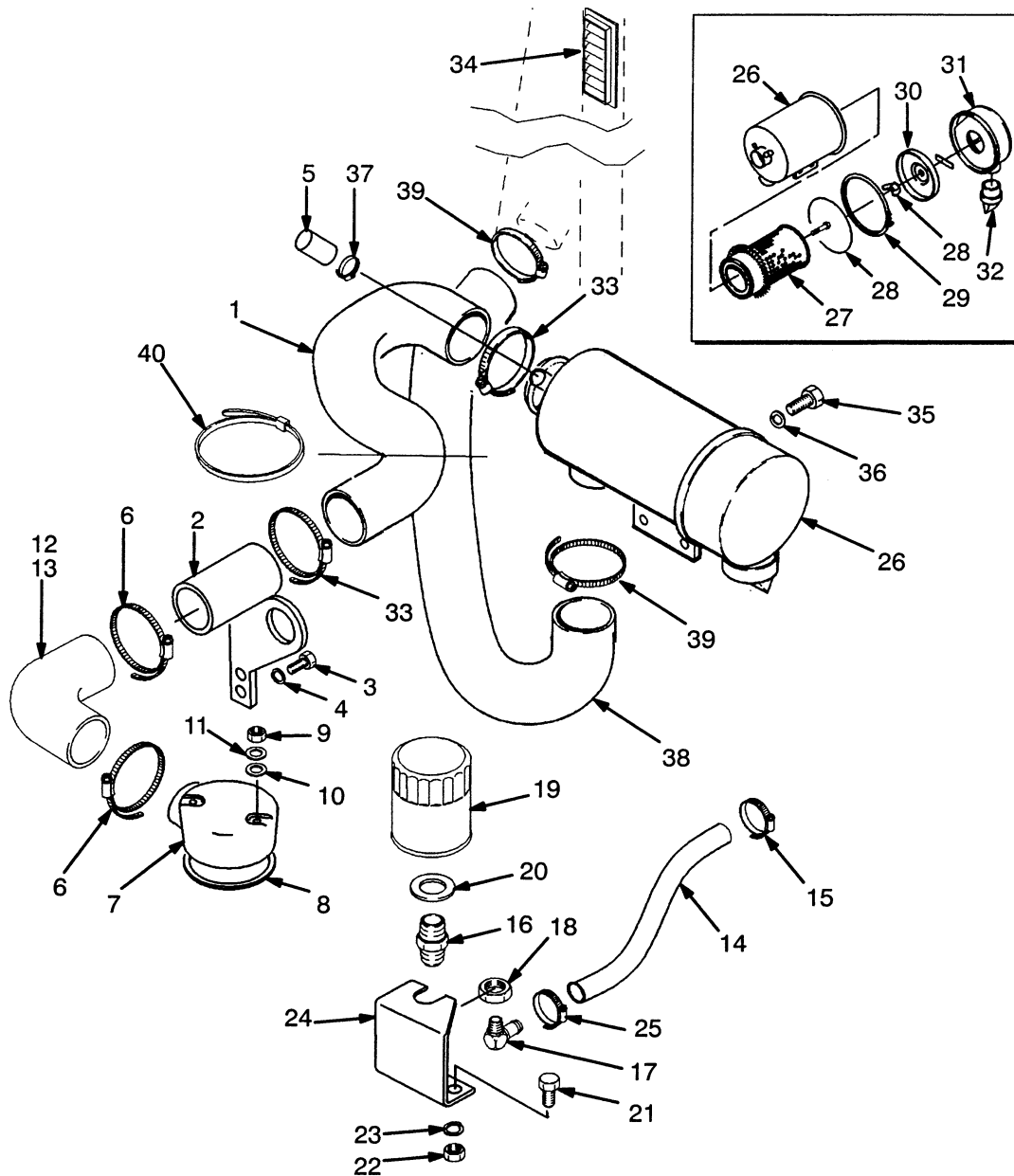
**A: 2.2L Engine**

**B: 2.0L Engine**

REF	PART NO.	NAME OF PART	QTY		REF	PART NO.	NAME OF PART	QTY	
			A	B				A	B
1	1343635	Air Filter .....	1	1	19	<sup>a</sup> 320157	Washer .....	2	..
2	<sup>c</sup> 305080	Element .....	1	1	20	120857	Hose .....	1	..
3	125847	Nut And Gasket .....	1	1	20	<sup>b</sup> 1374917	Hose .....	..	2
4	290734	Clamp .....	1	1	21	166857	Clamp .....	1	4
5	290735	Baffle .....	1	1	22	<sup>b</sup> 2004005	Strap Clamp .....	..	1
6	374922	Cup .....	1	1	22	2004005	Strap Clamp .....	3	..
7	374923	Valve .....	1	1	23	<sup>a</sup> 1359608	Plug .....	..	1
8	1339265	Grill .....	1	1	24	<sup>b</sup> 1374916	Fitting .....	..	1
9	112989	Clamp .....	4	4	25	<sup>b</sup> 193008	Hose .....	..	1
10	287854	Capscrew .....	2	2	26	<sup>b</sup> 168718	Clamp .....	..	1
11	292682	Lockwasher .....	2	2	27	1361794	Hose .....	..	1
12	273775	Strap Clamp .....	1	1	28	1361797	Hose .....	..	1
13	1343638	Hose .....	1	1	29	<sup>a</sup> 1361766	Elbow .....	..	1
14	1368980	Hose .....	1	..	30	<sup>a</sup> 1361765	Seal .....	..	1
14	<sup>a</sup> 1368917	Hose .....	..	1	31	1365895	Hose .....	..	1
14	<sup>b</sup> 1368980	Hose .....	..	1					
15	<sup>a</sup> 1347013	Air Bonnet .....	1	..					
16	<sup>a</sup> 1347021	Bonnet Gasket .....	1	..		<sup>a</sup>	Gasoline		
17	<sup>a</sup> 313828	Nut .....	2	..		<sup>b</sup>	LPG		
18	<sup>a</sup> 145831	Washer .....	2	..		<sup>c</sup>	Included In Repair Kit 996423		



## AIR FILTER AND BREATHER (Figure 89) GASOLINE AND LPG 3.0L



## AIR FILTER AND BREATHER

### GASOLINE AND LPG 3.0L

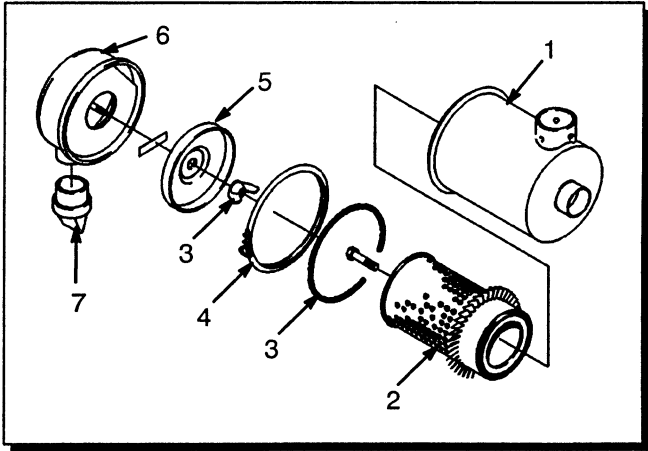
**KEY:**

**A: Gasoline**

**B: LPG**

REF	PART NO.	NAME OF PART	QTY		REF	PART NO.	NAME OF PART	QTY	
			A	B				A	B
1	1375174	Hose (Intake) .....	1	1	23	292680	Lockwasher .....	2	2
2	1375696	Tube .....	1	1	24	1376576	Bracket .....	1	1
3	16598	Capscrew .....	2	2	25	166857	Clamp .....	1	1
4	15156	Lockwasher .....	2	2	26	1343635	Air Filter .....	1	1
5	1359608	Plug .....	1	1	27 <b>b</b>	305080	Element .....	1	1
6	112989	Clamp .....	2	2	28	125847	Nut & Gasket .....	1	1
7	1375722	Air Bonnet .....	1	..	29	290734	Clamp .....	1	1
8	1347021	Gasket .....	1	..	30	290735	Baffle .....	1	1
9	313828	Locknut .....	2	..	31	374922	Cup .....	1	1
10	109919	Washer (Seal) .....	2	..	32	374923	Valve .....	1	1
11	320157	Washer .....	2	..	33	112989	Clamp .....	2	2
12 <b>a</b>	1375744	Hose .....	1	..	34	1339265	Grill .....	1	1
13 <b>a</b>	1375693	Hose .....	..	1	35	287854	Capscrew .....	2	2
14	1376726	Hose .....	1	1	36	292682	Lockwasher .....	2	2
15	130845	Clamp .....	1	1	37	166857	Clamp .....	1	1
16	1350042	Adapter .....	1	1	38	1343638	Hose .....	1	1
17	16788	Fitting .....	1	1	39	112989	Clamp .....	2	2
18	14761	Nut .....	1	1	40	323864	Strap Clamp .....	1	1
19	1350036	Filter .....	1	1					
20	1300152	Washer (Seal) .....	1	1					
21	292500	Capscrew .....	2	2	<b>a</b>	Not Used With Dual Fuel System			
22	136687	Nut .....	2	2	<b>b</b>	Included In Repair Kit 996423			

## DIESEL



**AIR FILTER  
DIESEL**

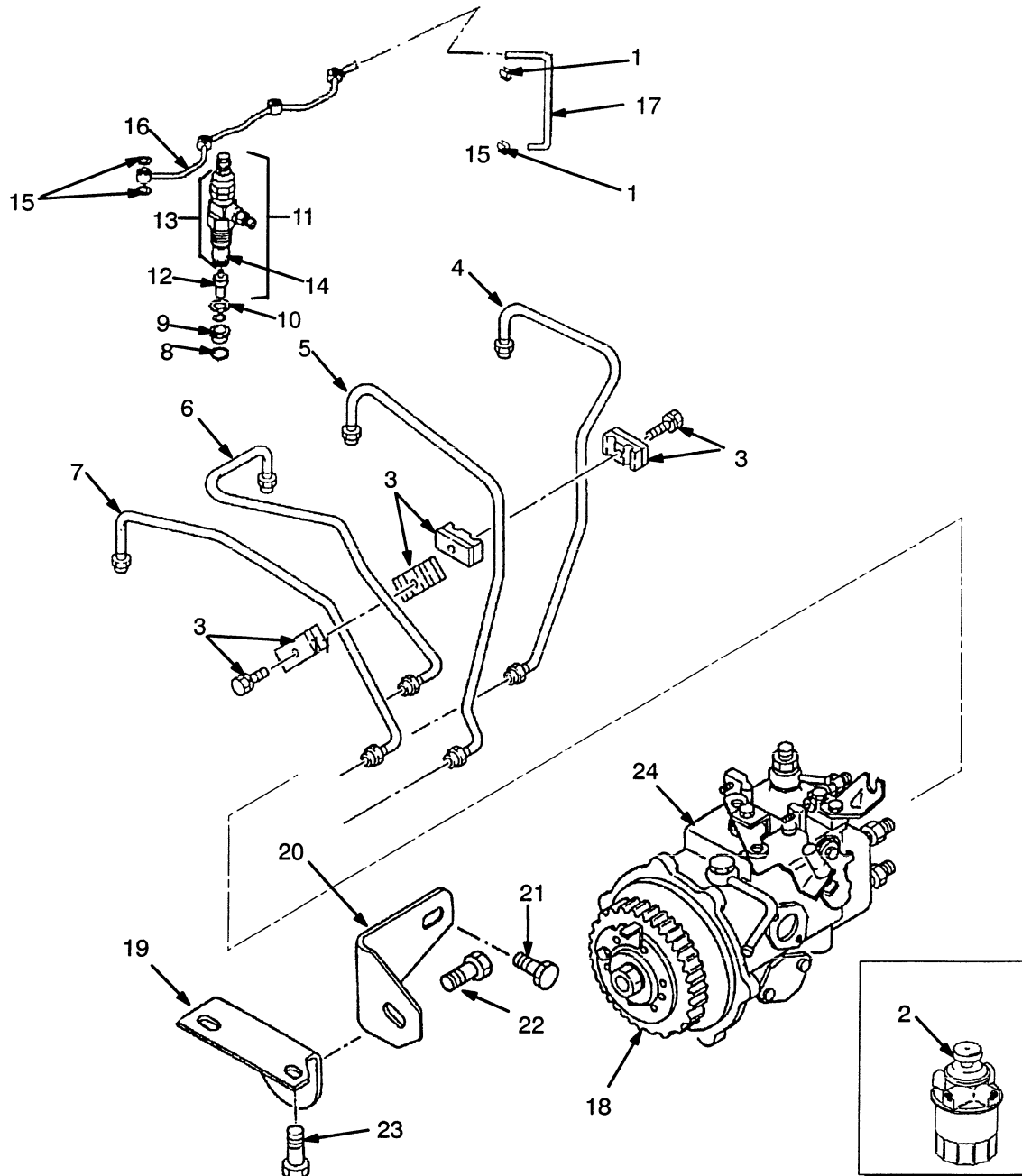
**KEY:**

**A: 2.4L Engine**

**B: 2.8L & 3.1L Engine**

REF	PART NO.	NAME OF PART	QTY		REF	PART NO.	NAME OF PART	QTY	
			A	B				A	B
1	1343635	Air Filter .....	1	1	18	292681	Lockwasher .....	2	..
2 <sup>c</sup>	305080	Element .....	1	1	19	1347133	Hose .....	1	..
3	125847	Nut & Gasket .....	1	1	20	130845	Clamp .....	1	..
4	290734	Clamp .....	1	1	21	2004005	Strap Clamp .....	1	..
5	290735	Baffle .....	1	1	22	136681	Capscrew .....	..	1
6	374922	Cup .....	1	1	23	292681	Lockwasher .....	..	1
7	374923	Valve .....	1	1	24	166857	Clamp .....	1	1
8	1339265	Grill .....	1	1	25	1347075	Air Bonnet .....	..	1
9	112989	Clamp .....	4	4	26	287860	Capscrew .....	..	2
10	287854	Capscrew .....	2	2	27	292682	Lockwasher .....	..	2
11	292682	Lockwasher .....	2	2	28	1338761	Gasket .....	..	1
12 <sup>a</sup>	1359569	Silencer .....	1	1	29	1359608	Plug .....	..	1
12 <sup>b</sup>	1383783	Silencer .....	1	1	30	292500	Capscrew .....	1	1
13	1350215	Nut .....	1	1	31	292680	Washer .....	1	1
14	1361104	Hose .....	1	1	32 <sup>b</sup>	1383784	Elbow .....	1	1
14	1347100	Hose .....	..	1	33	114312	Clamp .....	1	1
15	1347101	Tube .....	1	..	34	1394008	Clamp .....	2	2
15	1347106	Tube .....	..	1					
16	1347105	Hose .....	1	..	<sup>a</sup>	Last Used On S/N D177B-31975			
16	1347108	Hose .....	..	1	<sup>b</sup>	First Used On S/N D177B-31976			
17	136681	Capscrew .....	2	..	<sup>c</sup>	Included In Repair Kit 996423			

## FUEL INJECTION (Figure 91) DIESEL 2.4L



**FUEL INJECTION**  
**DIESEL 2.4L**

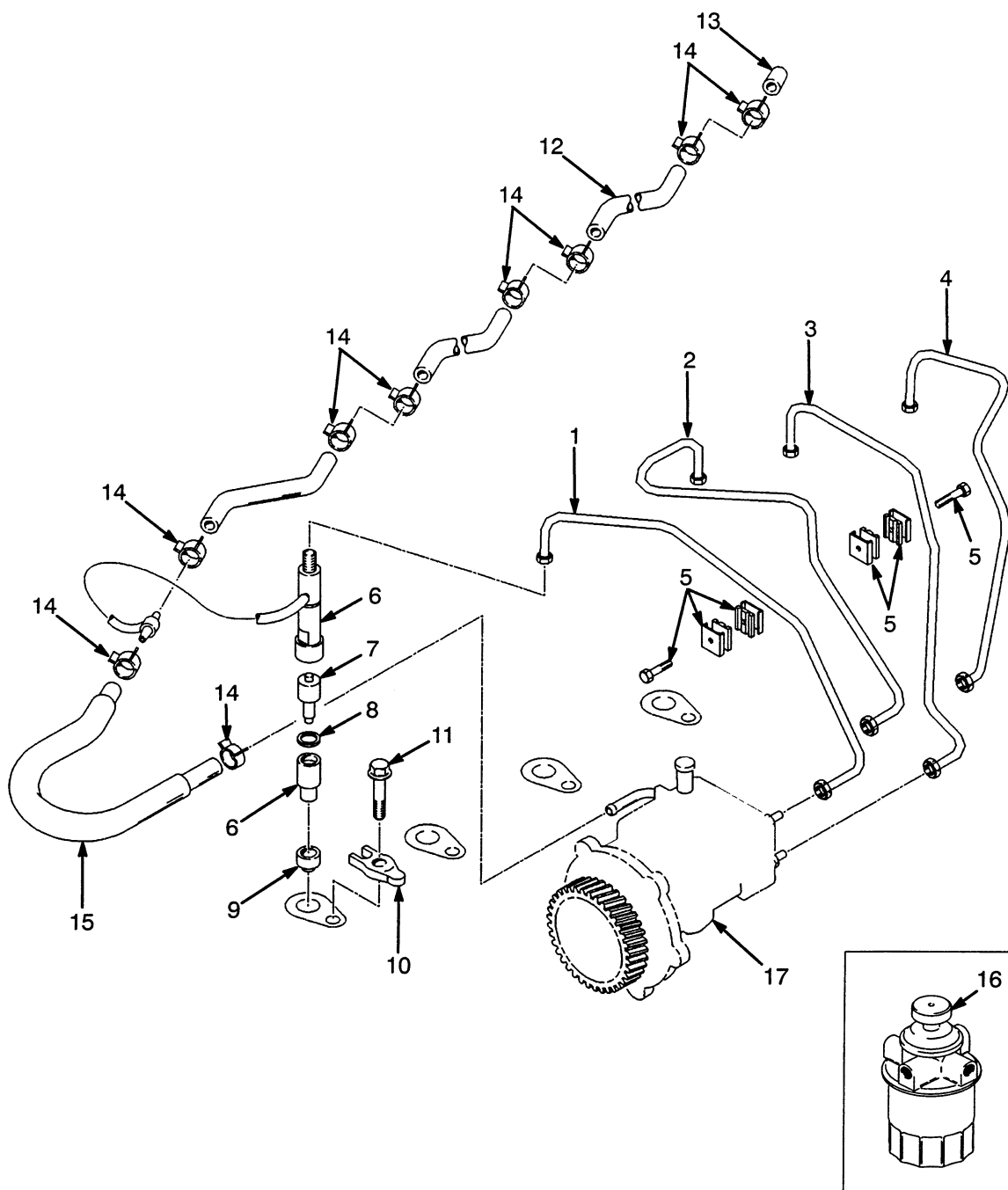
REF	PART NO.	NAME OF PART	QTY	REF	PART NO.	NAME OF PART	QTY
1	1329353	Clip .....	2	14	1370927	Retainer (Nut) .....	1
2		..... Fuel Filter .....	1	15 <sup>a</sup>	324412	Seal .....	8
		☞ Figure 79		16	1329350	Pipe .....	1
3	1329352	Clamp .....	5	17	1329351	Hose .....	1
4	1329349	Pipe .....	1	18	1329362	Gear .....	1
5	1329348	Pipe .....	1	19	1329363	Bracket .....	1
6	1329347	Pipe .....	1	20	1329364	Bracket .....	1
7	1329346	Pipe .....	1	21	1329359	Bolt .....	2
8	324410	Washer .....	4	22	1329365	Bolt .....	1
9	324408	Shield .....	4	23	1329366	Bolt .....	2
10 <sup>a</sup>	324411	Washer .....	4	24		..... Injection Pump .....	1
11	1376449	Nozzle (Assembly) .....	4			☞ Figure 87	
12	324407	Nozzle .....	1				
13	323807	Holder .....	1				

<sup>a</sup> Included In Seal Kit 1457161

## FUEL INJECTION (Figure 92)

DIESEL 2.8L

LAST USED ON S/N D177B-8291



**FUEL INJECTION**  
**DIESEL 2.8L**  
**LAST USED ON S/N D177B-8291**

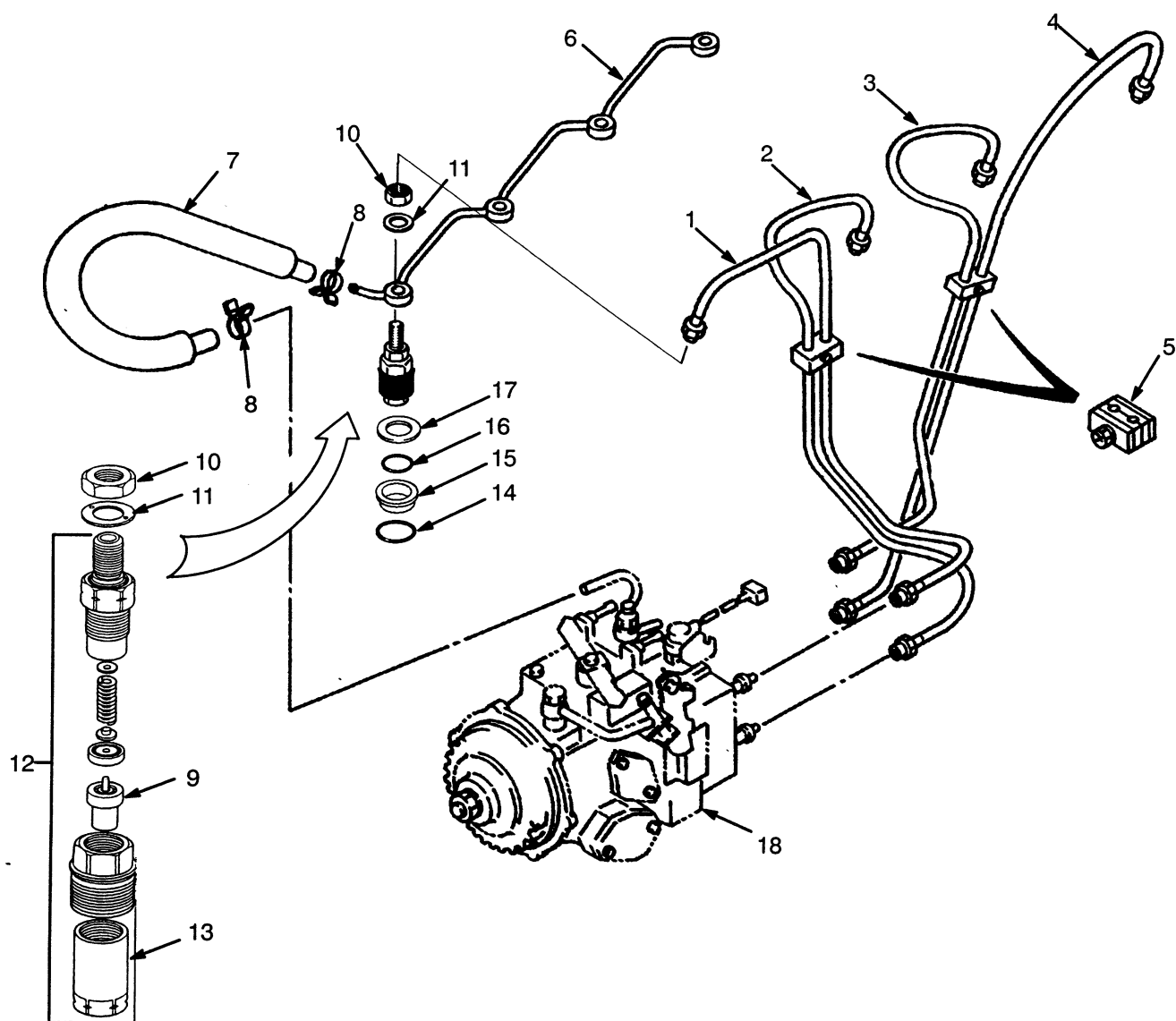
REF	PART NO.	NAME OF PART	QTY	REF	PART NO.	NAME OF PART	QTY
1	1338763	Injection Pipe #1 .....	1	11	1338772	Bolt .....	4
2	1338764	Injection Pipe #2 .....	1	12	1338773	Hose .....	3
3	1338765	Injection Pipe #3 .....	1	13	1338774	Cap .....	1
4	1338766	Injection Pipe #4 .....	1	14	1329353	Clamp .....	9
5	1329352	Clamp Assembly .....	3	15	1338775	Hose .....	1
6	1338768	Nozzle Holder .....	4	16	.....	Fuel Filter .....	1
7	1338767	Nozzle .....	4			☞ Figure 79	
8	1338769	O-Ring .....	4	17	.....	Injection Pump .....	1
9	1338770	Gasket .....	4			☞ Figure 87	
10	1338771	Bracket .....	4				




## FUEL INJECTION (Figure 93)

DIESEL 3.1L

FIRST USED ON S/N D177B-8292

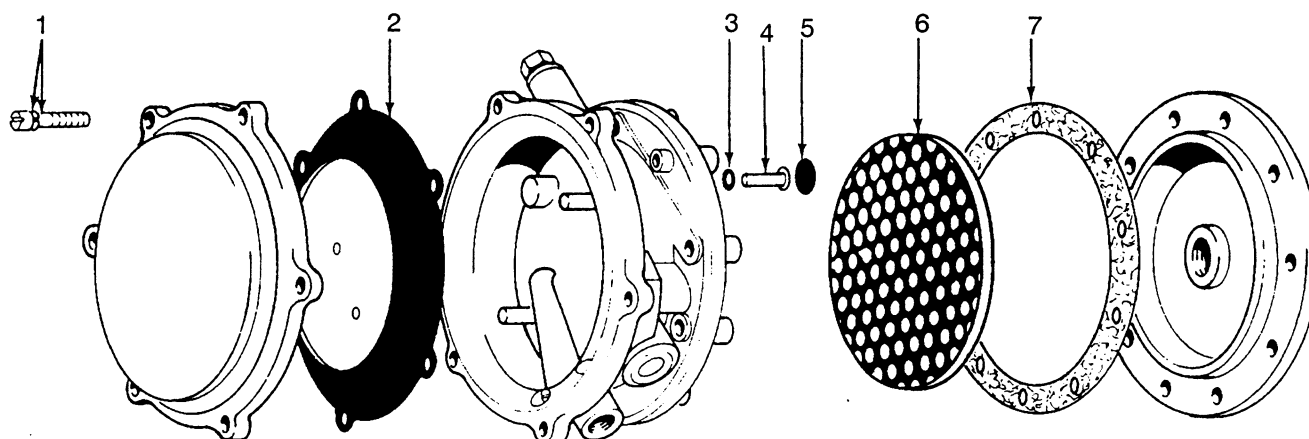


**FUEL INJECTION**  
**DIESEL 3.1L**  
**FIRST USED ON S/N D177B-8292**

REF	PART NO.	NAME OF PART	QTY	REF	PART NO.	NAME OF PART	QTY
1	1374958	Injection Pipe #1 .....	1	12	1374986	Nozzle Holder .....	4
2	1374959	Injection Pipe #2 .....	1	13	1374987	Nut .....	1
3	1374960	Injection Pipe #3 .....	1	14 <sup>a</sup>	1379763	Washer .....	4
4	1374961	Injection Pipe #4 .....	1	15 <sup>a</sup>	1456641	Shield .....	4
5	1329352	Clamp .....	2	16 <sup>a</sup>	1379761	Wave Washer .....	4
6	1374962	Pipe Assembly .....	1	17 <sup>a</sup>	1456640	Washer .....	4
7	1374963	Hose .....	1	18	.....	Injection Pump .....	1
8	1329353	Clamp .....	2			 Figure 87	
9	1374983	Nozzle .....	4				
10	1374984	Nut .....	4	<sup>a</sup>	Included In Seal Kit 1457161		
11 <sup>a</sup>	1374985	Gasket .....	4				

## FILTER AND LOCK-OFF VALVE (Figure 94)

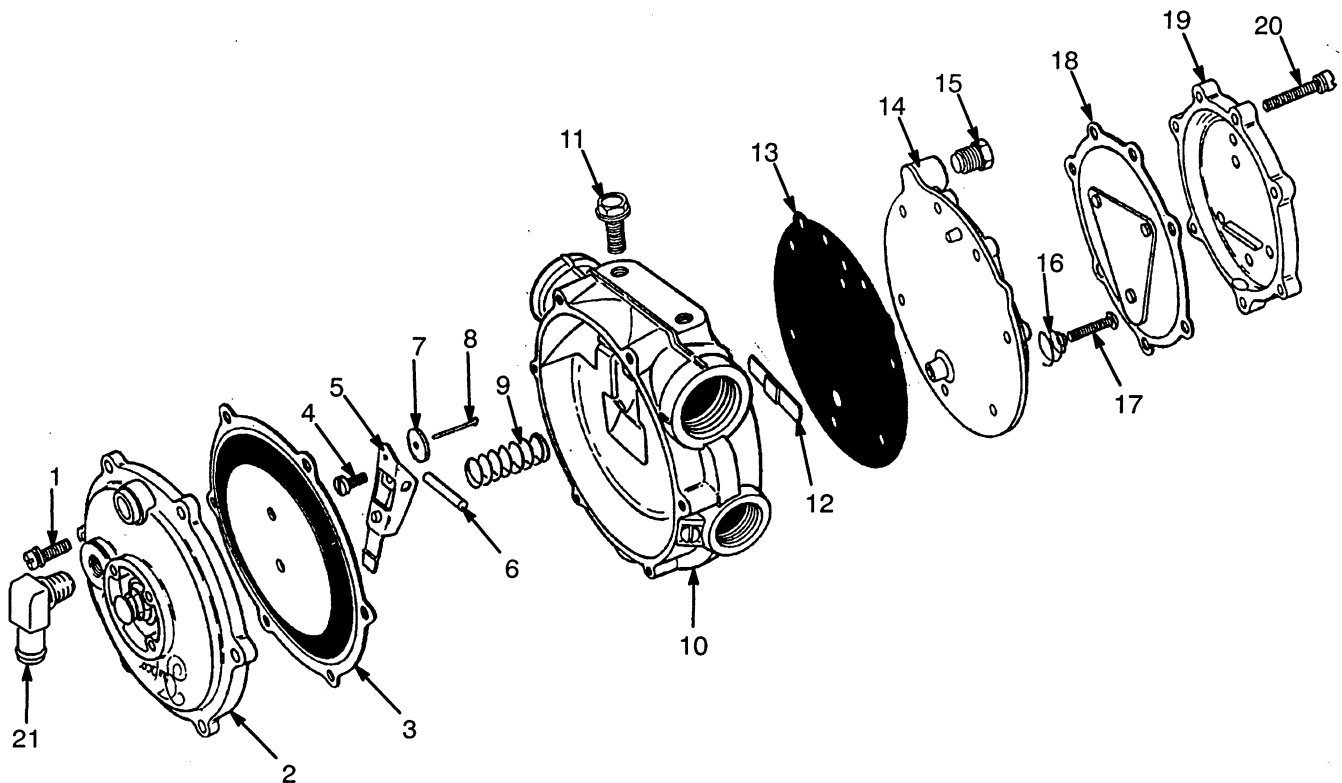
LPG



REF	PART NO.	NAME OF PART	QTY
	258321	Lock-Off Filter .....	1
1 a	.....	Screw .....	2
1 a	.....	Washer .....	2
2 a	.....	Diaphragm .....	1
3 a	.....	O-Ring .....	1
4 a	.....	Screw .....	1

REF	PART NO.	NAME OF PART	QTY
5 a	.....	Valve Seat .....	1
6 a	263962	Filter .....	1
7 a	.....	Gasket .....	1
a	Included In Repair Kit 263958		

**LPG CONVERTER (Figure 95)**  
**LAST USED ON S/N D177B-10965**

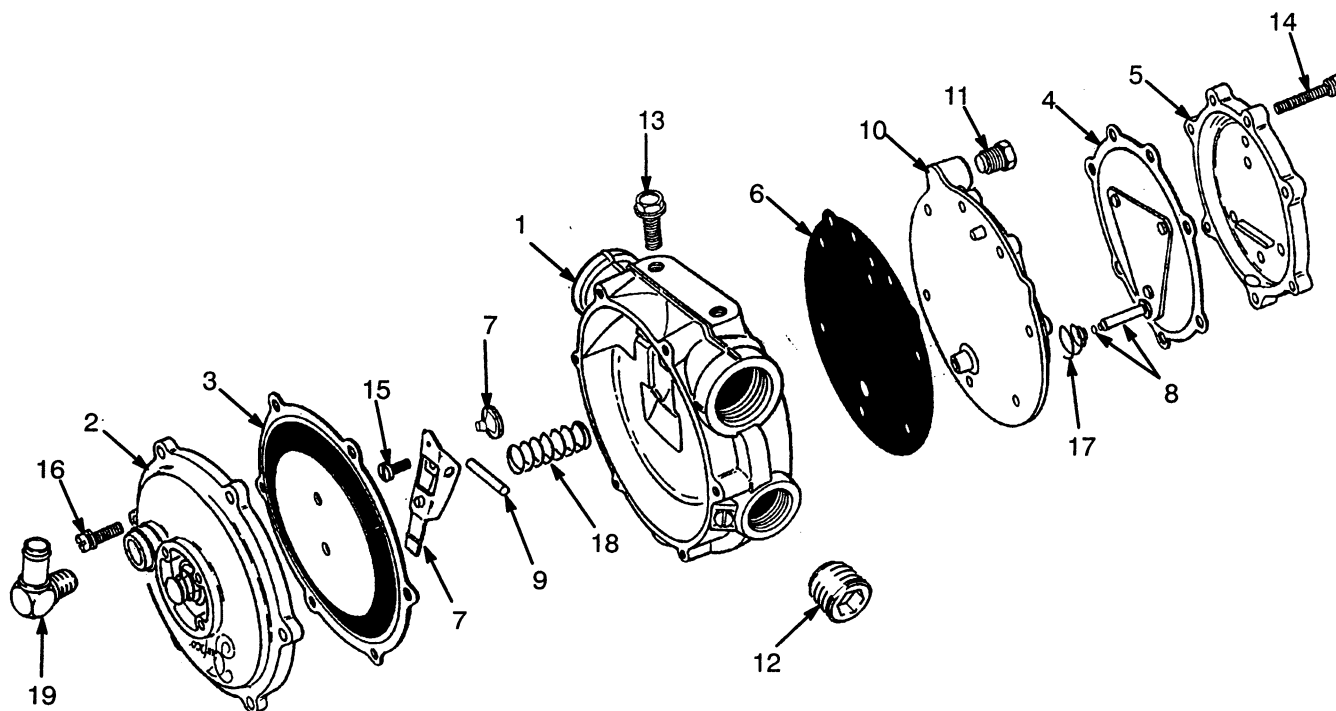


REF	PART NO.	NAME OF PART	QTY
	1354076	Converter (LPG) .....	1
1	a 12445	Capscrew .....	6
1	.....	Lockwasher .....	6
2	1357740	Cover .....	1
3	a 1357742	Diaphragm .....	1
4	a 16719	Screw .....	1
4	.....	Lockwasher .....	1
5	1357746	Lever .....	1
6	204830	Pin .....	1
7	a 1357747	Pin .....	1
7	.....	Seat .....	1
8	.....	Pin .....	1
9	204831	Spring .....	1
10	1357739	Body .....	1
11	.....	Screw .....	2

REF	PART NO.	NAME OF PART	QTY
11	.....	Lockwasher .....	2
12	a 1357703	Seat .....	1
13	a 1357745	Gasket .....	1
14	1357748	Plate .....	1
15	1357749	Fitting Plug .....	1
16	204835	Spring .....	1
17	a 1357747	Pin .....	1
18	a 1357741	Diaphragm .....	1
19	1357743	Cover .....	1
20	a 16849	Screw .....	7
20	.....	Lockwasher .....	7
21	a 1369066	Check Valve .....	1
a	Included In Repair Kit 1367119		

## LPG CONVERTER (Figure 96)

FIRST ON S/N D177B-10966



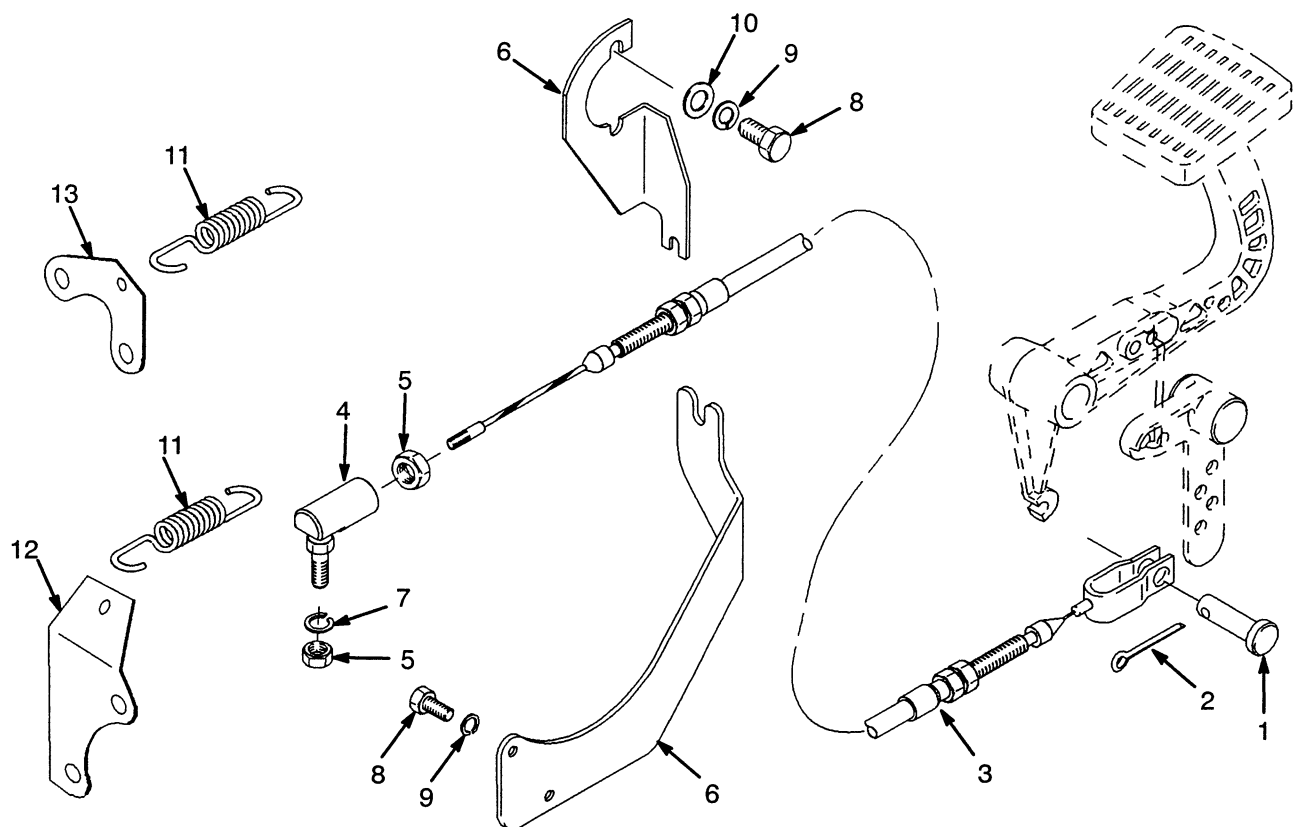
REF	PART NO.	NAME OF PART	QTY
b	1369572	Converter Assembly .....	1
1	1455310	Body .....	1
2	.....	Cover .....	1
3 a	1375047	Diaphragm (Secondary) .....	1
4 a	.....	Diaphragm (Primary) .....	1
5	1375037	Cover (Primary) .....	1
6 a	.....	Gasket .....	1
7	204829	Lever (Secondary) .....	1
7 a	.....	Seat .....	1
8 a	1376429	Pin Assembly .....	1
9	204830	Pin .....	1
10	1375029	Plate .....	1

REF	PART NO.	NAME OF PART	QTY
11	1357749	Plug .....	1
12	1357707	Plug .....	1
13	1369065	Screw .....	2
14 a	1450126	Screw .....	2
15	1455306	Screw .....	1
16 a	1450126	Screw .....	2
17	1375030	Spring .....	1
18	204831	Spring .....	1
19	1369066	Check Valve .....	1

a Included In Repair Kit 1375031  
b Service With Converter 1457964

# THROTTLE LINKAGE (Figure 97)

## DIESEL



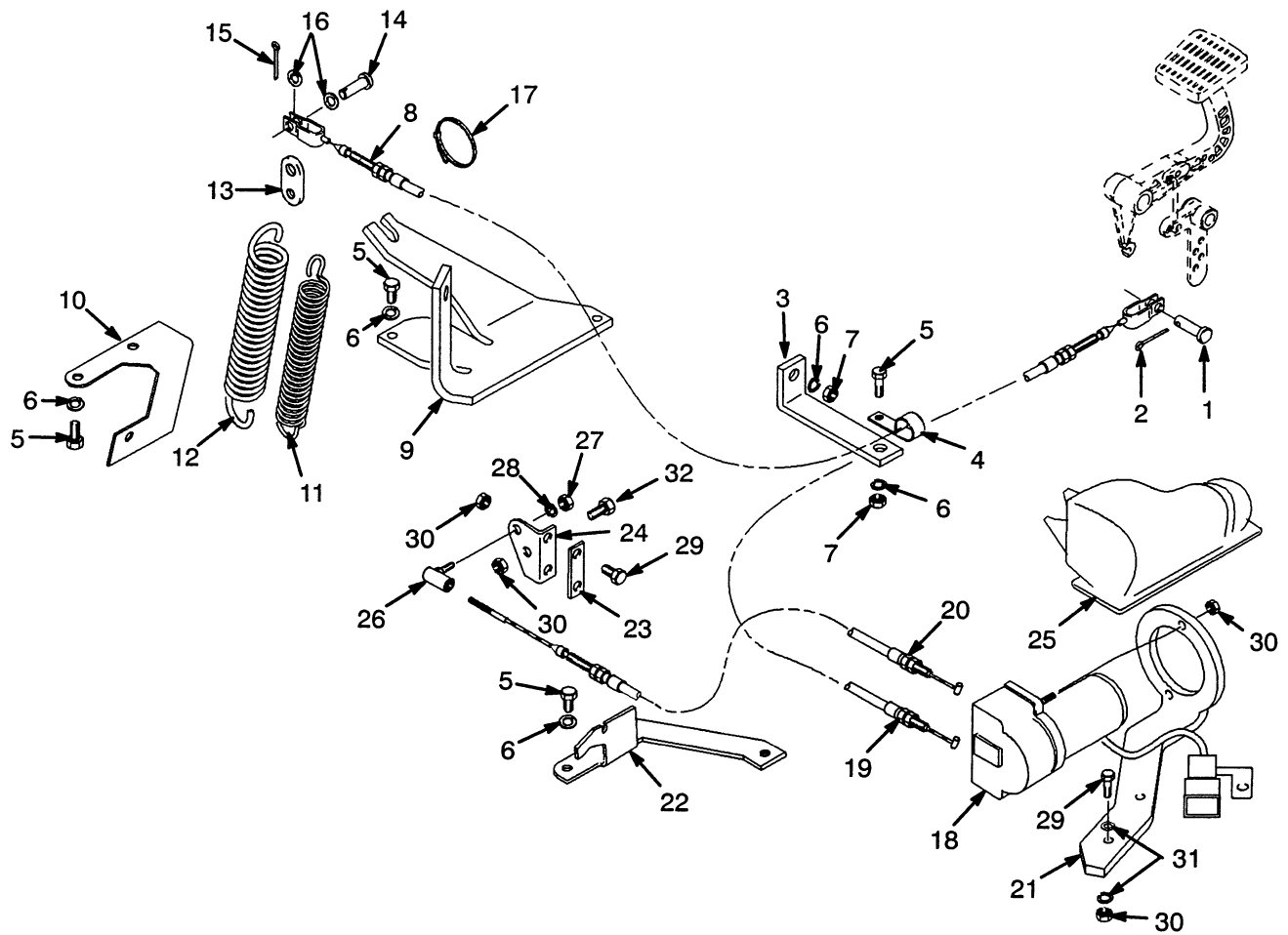
**KEY:**

**A:** 2.4L Engine

**B:** 2.8L & 3.1L Engine

REF	PART NO.	NAME OF PART	QTY		REF	PART NO.	NAME OF PART	QTY	
			A	B				A	B
1	162836	Rod End Pin .....	1	1	8	292500	Capscrew .....	2	..
2	15212	Pin .....	1	1	8	292515	Capscrew .....	..	2
3	1356522	Cable .....	1	..	9	292680	Lockwasher .....	2	..
3	1339632	Cable .....	..	1	9	292682	Lockwasher .....	..	2
4	203010	Ball Joint .....	1	1	10	320159	Washer .....	..	2
5	15002	Nut .....	2	2	11	1363958	Spring .....	1	1
6	1320766	Bracket .....	1	..	12	1363956	Plate .....	1	..
6	1329285	Bracket .....	..	1	13	1363957	Plate .....	..	1
7	292679	Washer .....	1	1					

**THROTTLE LINKAGE (Figure 98)**  
**GASOLINE AND LPG 2.2L**



## THROTTLE LINKAGE GASOLINE AND LPG 2.2L

**KEY:**

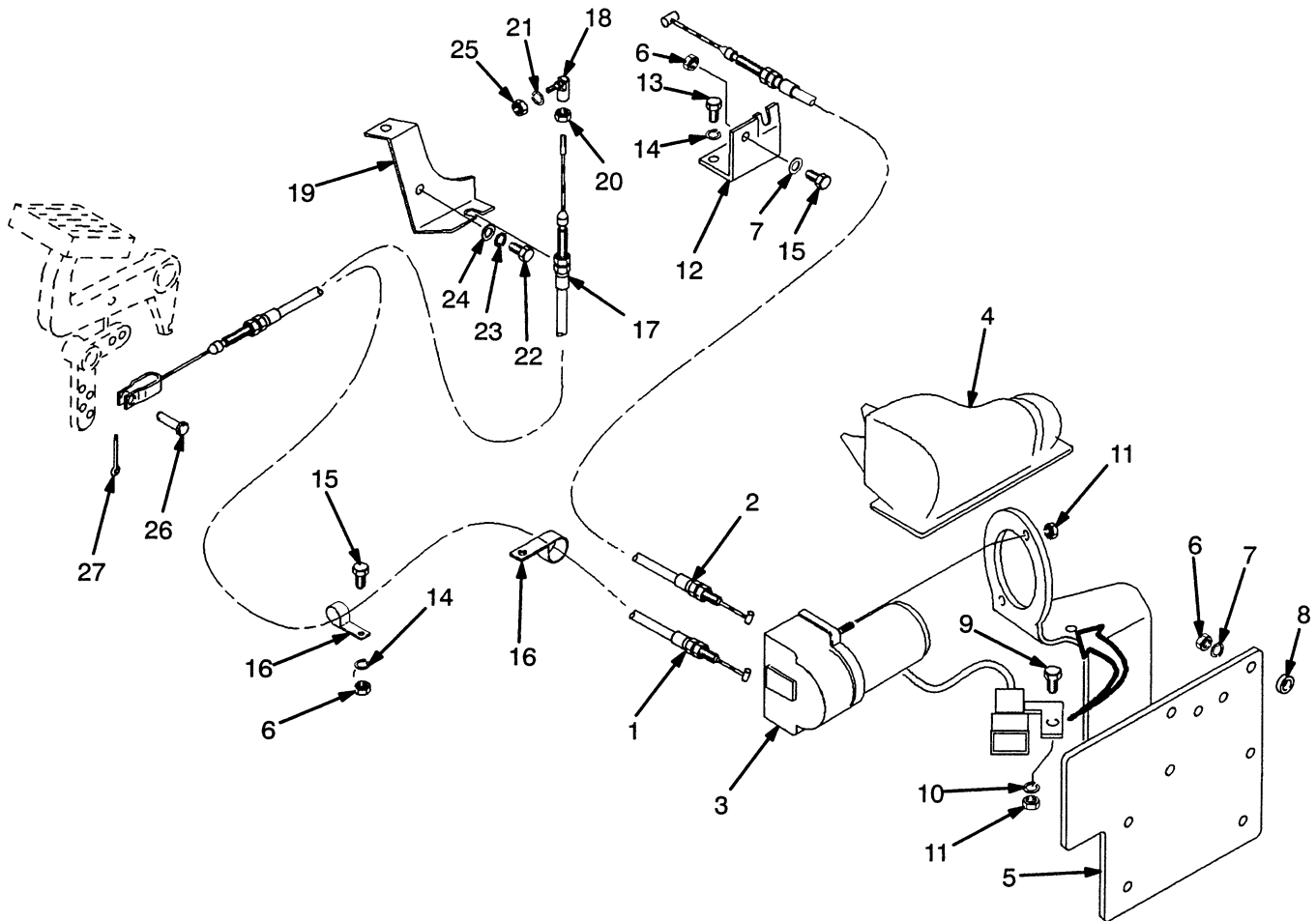
**A:** Gasoline

**B:** LPG

REF	PART NO.	NAME OF PART	QTY		REF	PART NO.	NAME OF PART	QTY	
			A	B				A	B
1	162836	Rod End Pin .....	1	1	17	137852	Strap Clamp .....	1	1
2	15212	Pin .....	1	1	18	1359450	Actuator .....	1	..
3	1356438	Cable Bracket .....	1	1	19	1352641	Throttle Cable (To Pedal Assy) ..	1	..
4	198675	Clamp .....	1	1	20	1352642	Throttle Cable (To Throttle) ...	1	..
5	136681	Capscrew .....	2	4	21	1356115	Actuator Bracket .....	1	..
6	292681	Washer .....	3	5	22	1354254	Throttle Bracket .....	1	..
7	239503	Nut .....	2	2	23	1354251	Plate .....	1	..
8	1339628	Throttle Cable .....	..	1	24	1354252	Plate .....	1	..
9	1354253	Throttle Bracket .....	..	1	25	1356437	Cover .....	1	..
10	1356390	Spring Bracket .....	..	1	26	203010	Ball Joint .....	1	..
11	1356404	Spring .....	..	1	27	15002	Nut .....	2	..
12	1363921	Spring .....	..	1	28	292679	Washer .....	1	..
13	1345022	Link .....	..	1	29	292501	Capscrew .....	4	..
13 <sup>a</sup>	1376613	Link .....	..	1	30	313805	Nut .....	6	..
14	126	Rod End Pin .....	..	1	31	320156	Washer .....	2	..
15	15200	Pin .....	..	1	32	287816	Capscrew .....	1	..
16	320156	Washer .....	..	2	<sup>a</sup> High Altitude Performance				



**THROTTLE LINKAGE (Figure 99)**  
**GASOLINE AND LPG 3.0L**



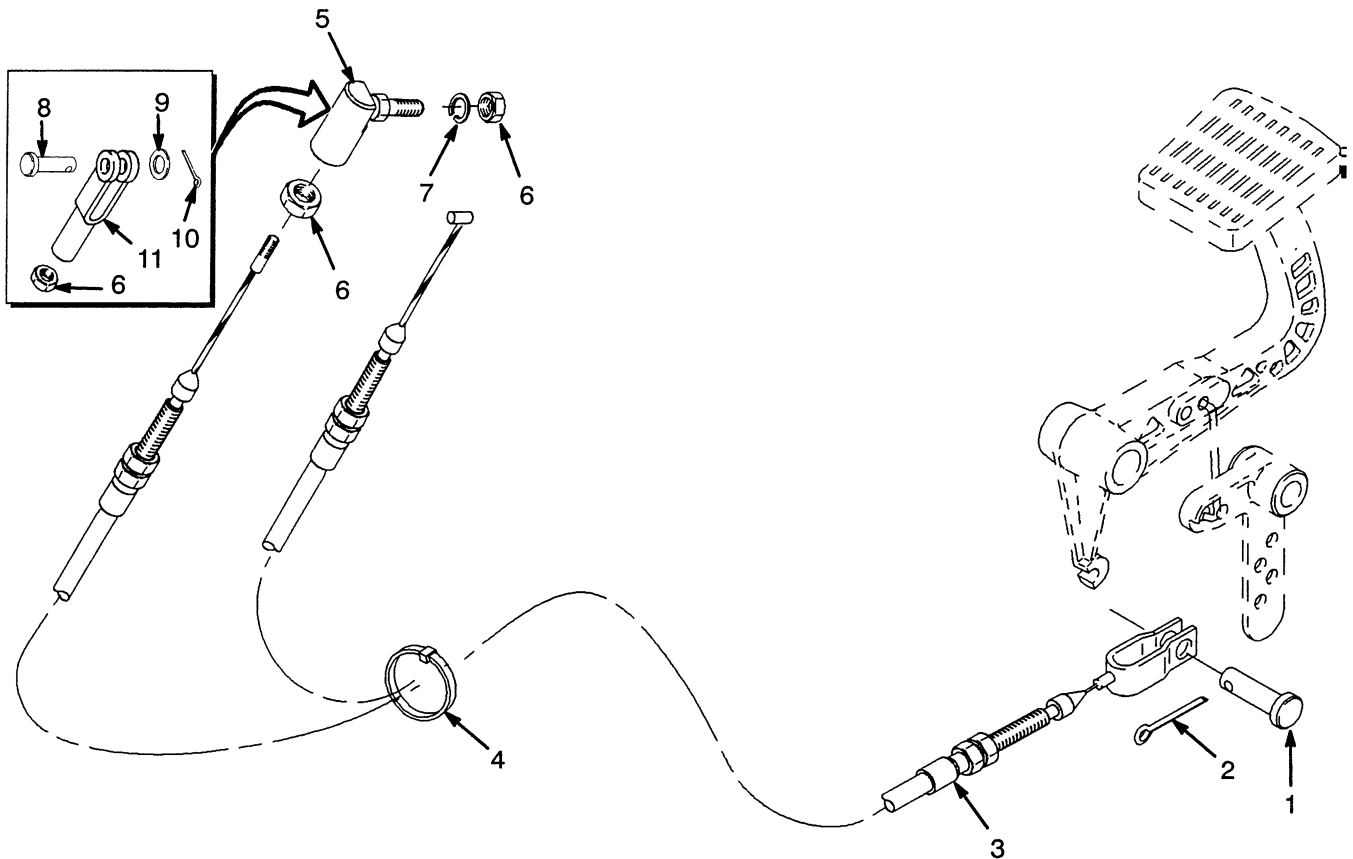
## THROTTLE LINKAGE GASOLINE AND LPG 3.0L

**KEY:****A: Gasoline****B: LPG**

REF	PART NO.	NAME OF PART	QTY		REF	PART NO.	NAME OF PART	QTY	
			A	B				A	B
1	1375834	Throttle Cable .....	1	..	17	1339632	Cable .....	..	1
2	1375835	Throttle Cable .....	1	..	18	161252	Ball Joint .....	..	1
3	1359450	Actuator .....	1	..	19 <sup>a</sup>	1376577	Bracket .....	..	1
4	1356437	Cover .....	1	..	19 <sup>b</sup>	1389499	Bracket .....	..	1
5	1375826	Bracket .....	1	..	20	15002	Nut .....	..	1
6	313828	Locknut .....	5	..	21	15154	Lockwasher .....	..	1
7	320158	Washer .....	4	..	22	16836	Capscrew .....	..	1
8	1375848	Spacer .....	3	..	23	15155	Lockwasher .....	..	1
9	287816	Capscrew .....	1	..	24	18515	Washer .....	..	1
10	320156	Washer .....	1	..	25	15004	Nut .....	..	1
11	313805	Locknut .....	3	..	26	162836	Pin .....	1	1
12	1375786	Bracket .....	1	..	27	15212	Cotter Pin .....	1	1
13	136681	Capscrew .....	1	..					
14	292681	Lockwasher .....	2	..	<sup>a</sup>	Last Used On S/N D177B-39471			
15	136681	Capscrew .....	2	..	<sup>b</sup>	First Used On S/N D177B-39472			
16	1376782	Clamp .....	2	..					

[illegible]

# **THROTTLE LINKAGE (Figure 100)** **GASOLINE AND LPG 2.0L**



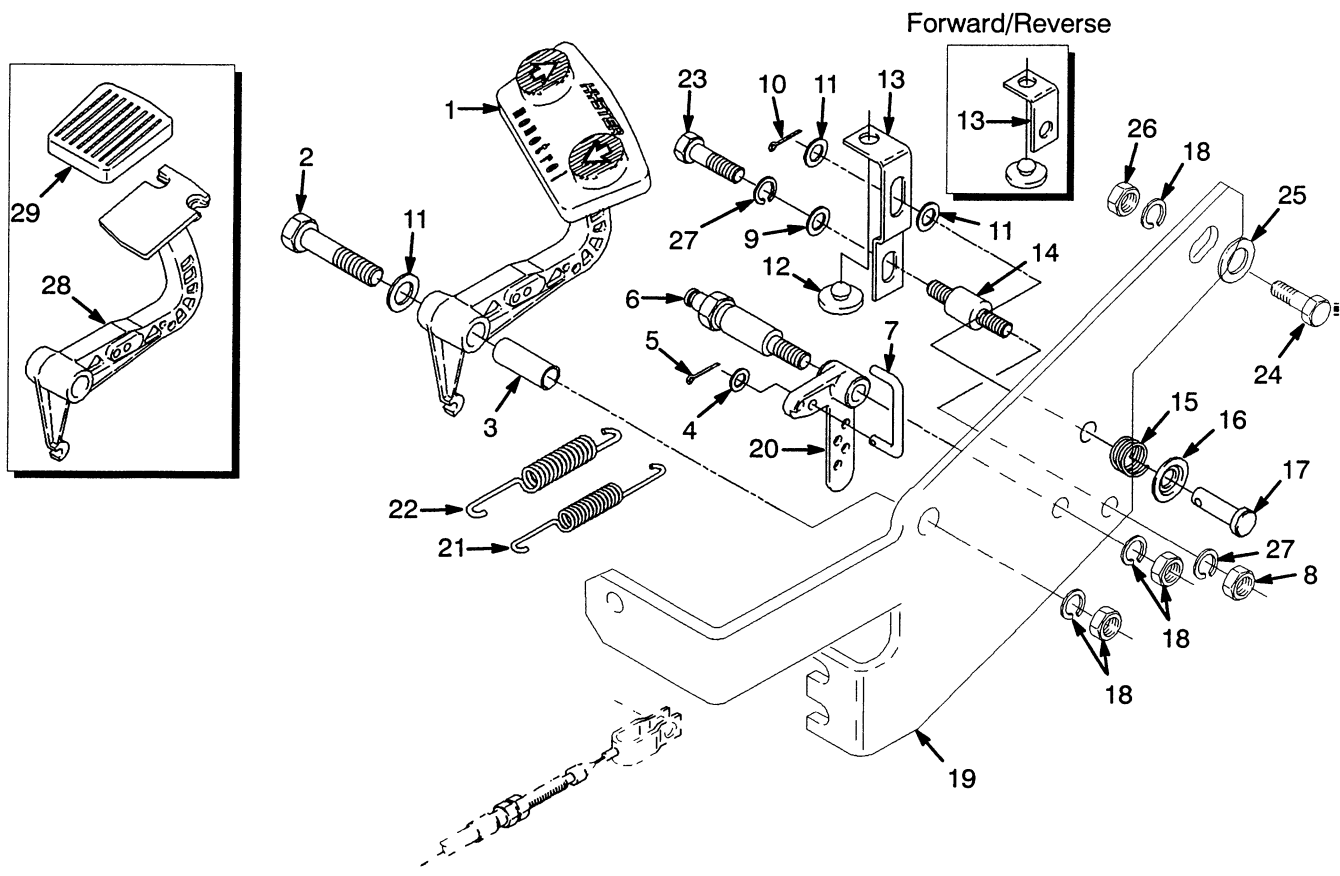
**KEY:**

**A: Gasoline**  
**B: LPG**

REF	PART NO.	NAME OF PART	QTY	
			A	B
1	162836	Rod End Pin .....	1	1
2	15212	Pin .....	1	1
3	1339626	Cable .....	1	..
3	1356522	Cable .....	..	1
4	137852	Strap Clamp .....	1	1
5	a 203010	Ball Joint .....	..	1
6	a 15002	Nut .....	..	2
6	b 15002	Nut .....	..	1

REF	PART NO.	NAME OF PART	QTY	
			A	B
7	292679	Lockwasher .....	..	1
8	b 309109	Pin .....	..	1
9	b 320155	Washer .....	..	1
10	b 15200	Cotter Pin .....	..	1
11	b 161617	Rod End .....	..	1
a Last Used On S/N D177B-15620				
b First Used On S/N D177B-15621				

## PEDAL LINKAGE (Figure 101)



### KEY:

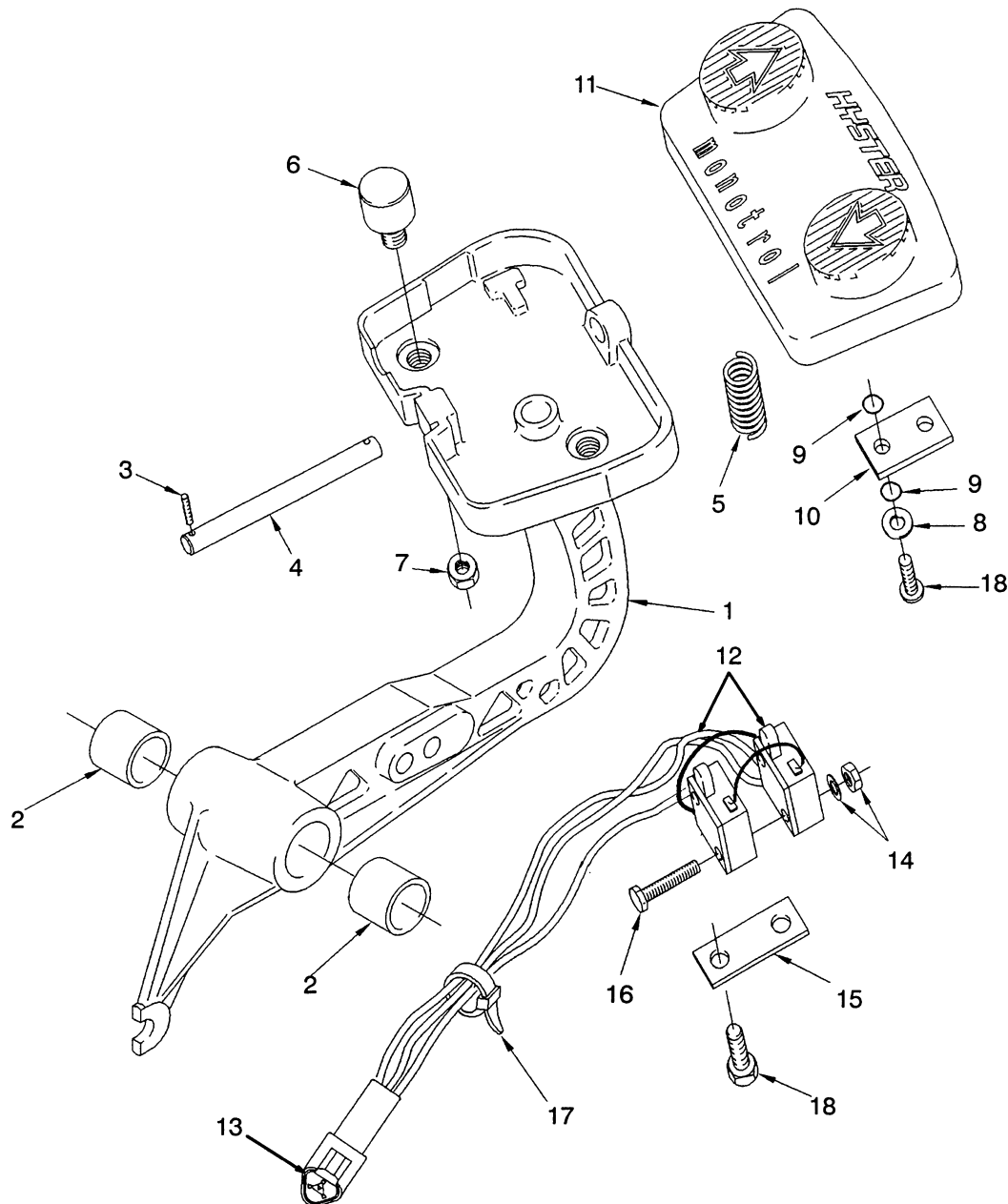
A: Monotrol Pedal

B: Forward/Reverse Lever

REF	PART NO.	NAME OF PART	QTY
A	B		
1	.....	Monotrol Pedal .....	1 ..
		Figure 102	
2	292523	Capscrew .....	1 ..
2	292521	Capscrew .....	.. 1
3	353141	Tube .....	1 ..
3	325708	Tube .....	.. 1
4	320156	Washer .....	1 1
5	15200	Pin .....	1 1
6	352485	Shaft .....	1 1
7	1347159	Rod .....	1 1
8	239503	Nut .....	1 ..
8	296128	Nut .....	.. 1
9	320158	Washer .....	1 ..
10	15212	Pin .....	1 ..
11	320160	Washer .....	3 2
12	353195	Bumper .....	1 1
13	352950	Bracket .....	1 ..
13	353159	Bracket .....	.. 1
14	353453	Mount .....	1 ..

REF	PART NO.	NAME OF PART	QTY
A	B		
15	353172	Spring .....	1 ..
16	353230	Cap .....	1 ..
17	142	Pin .....	1 ..
18	292682	Lockwasher .....	4 4
18	136692	Nut .....	2 2
19	1339717	Bracket .....	1 1
20	353164	Crank .....	1 1
21	353142	Spring .....	1 1
22	353143	Spring .....	1 1
23	287851	Capscrew .....	1 ..
23	287854	Capscrew .....	.. 1
24	136985	Capscrew .....	2 2
25	320159	Washer .....	2 2
26	136692	Nut .....	2 2
27	292681	Lockwasher .....	2 ..
27	292682	Lockwasher .....	.. 1
28	352499	Pedal .....	.. 1
29	352885	Pad .....	.. 1

# **MONOTROL PEDAL (Figure 102)**



REF	PART NO.	NAME OF PART	QTY	REF	PART NO.	NAME OF PART	QTY
	1352575	Pedal .....	1	11	353175	Monotrol Pad .....	1
1	353397	Pedal .....	1	12	1352090	Switch Assembly .....	1
2	135685	Bushing .....	2	12	....	Harness .....	1
3	220932	Screw .....	2	13	1330410	Connector .....	1
3	360387	Loctite .....	AR	13	1330415	Lock .....	1
4	353154	Pin .....	1	13	1330435	Terminal .....	3
5	353168	Spring .....	1	14	53162	Lockwasher .....	2
6	353422	Magnet .....	2	14	16865	Nut .....	2
7	353432	Nut .....	2	15	353165	Retainer .....	1
8	353448	Washer .....	4	16	220434	Screw .....	2
9	57568	O-Ring .....	8	17	114312	Strap Clamp .....	3
10	359207	Plate .....	2	18	352969	Screw .....	6

[illegible]

---

**ELECTRICAL SYSTEM**

ALTERNATOR (Figure 141) GASOLINE AND LPG 2.0L .....	Page 260
ALTERNATOR (Figure 142) GASOLINE AND LPG 2.2L .....	Page 261
ALTERNATOR (Figure 143) GASOLINE AND LPG 3.0L LAST USED ON S/N D177B41709 .....	Page 262
ALTERNATOR (Figure 144) GASOLINE AND LPG 3.0L FIRST USED ON S/N D177B-41710 .....	Page 264
ALTERNATOR (Figure 145) DIESEL 2.4L .....	Page 266
ALTERNATOR (Figure 146) DIESEL 2.8L AND 3.1L .....	Page 268
ALTERNATOR (Figure 147) TYPES GS, LPS AND DS LAST USED ON S/N D177B-42119 .....	Page 270
ALTERNATOR (Figure 148) TYPES GS, LPS AND DS FIRST USED ON S/N D177B-42120 .....	Page 272
DISTRIBUTOR (Figure 139) GASOLINE AND LPG 2.0L .....	Page 258
DISTRIBUTOR (Figure 140) GASOLINE AND LPG 3.0L .....	Page 259
ELECTRICAL CONNECTORS (Figure 156) LESS TERMINALS .....	Page 284
ELECTRICAL (Figure 112) GASOLINE AND LPG 2.2L .....	Page 196
ELECTRICAL (Figure 113) GASOLINE AND LPG 3.0L LAST USED ON S/N D177B-35854 .....	Page 200
ELECTRICAL (Figure 114) GM 3.0L GASOLINE FIRST USED ON S/N D177B-35855 .....	Page 204



---

**ELECTRICAL SYSTEM (CONTINUED)**

ELECTRICAL (Figure 115) GM 3.0L LPG FIRST USED ON S/N D177B-35855 .....	Page 206
ELECTRICAL (Figure 116) GASOLINE AND LPG 2.0L .....	Page 210
ELECTRICAL (Figure 117) DIESEL .....	Page 212
ELECTRICAL (Figure 136) LPG FIELD CONVERSION 2.2L .....	Page 250
ELECTRICAL (Figure 137) TYPES GS,LPS AND DS .....	Page 252
ELECTRICAL (Figure 138) TYPES GS AND LPS 3.0L .....	Page 256
ELECTRICAL-COWL (Figure 103) LAST USED ON S/N D177B-35854 .....	Page 180
ELECTRICAL-COWL (Figure 104) FIRST USED ON S/N D177B-35855 .....	Page 182
ENGINE HARNESS (Figure 124) GASOLINE 2.2L .....	Page 226
ENGINE HARNESS (Figure 126) GASOLINE 3.0L LAST USED ON S/N D177B-35854 .....	Page 230
ENGINE HARNESS (Figure 127) GASOLINE 3.0L FIRST USED ON S/N D177B-35855 .....	Page 232
ENGINE HARNESS (Figure 128) LPG 2.2L .....	Page 234
ENGINE HARNESS (Figure 129) LPG 3.0L LAST USED ON S/N D177B-35854 .....	Page 236
ENGINE HARNESS (Figure 130) LPG 3.0L USED ON S/N D177B-35855 THRU S/N D177B-39471 .....	Page 238

---

## ELECTRICAL SYSTEM (CONTINUED)

ENGINE HARNESS (Figure 131) LPG 3.0L WITHOUT MSTs FIRST USED ON S/N D177B-39472 .....	Page 240
ENGINE HARNESS (Figure 132) LPG 3.0L WITH MSTs FIRST USED ON S/N D177B-39472 .....	Page 242
ENGINE HARNESS-LPS (Figure 134) LPG 2.2L .....	Page 246
HARNESS AND SWITCH (Figure 133) DUAL FUEL 3.0L .....	Page 244
HARNESS (Figure 105) COWL LAST USED ON S/N D177B-35854 .....	Page 184
HARNESS (Figure 106) COWL FIRST USED ON S/N D177B-35855 .....	Page 186
HARNESS (Figure 107) CLUSTER LAST USED ON S/N D177B-35854 .....	Page 188
HARNESS (Figure 108) CLUSTER FIRST USED ON S/N D177B-35855 .....	Page 189
HARNESS (Figure 109) CLUSTER POWER .....	Page 190
HARNESS (Figure 110) LIGHTING LAST USED ON S/N D177B-35854 .....	Page 192
HARNESS (Figure 111) FORWARD/REVERSE LEVER .....	Page 195
HARNESS (Figure 118) DIESEL LAST USED ON S/N D177B-35854 .....	Page 214
HARNESS (Figure 119) DIESEL FIRST USED ON S/N D177B-35855 .....	Page 216

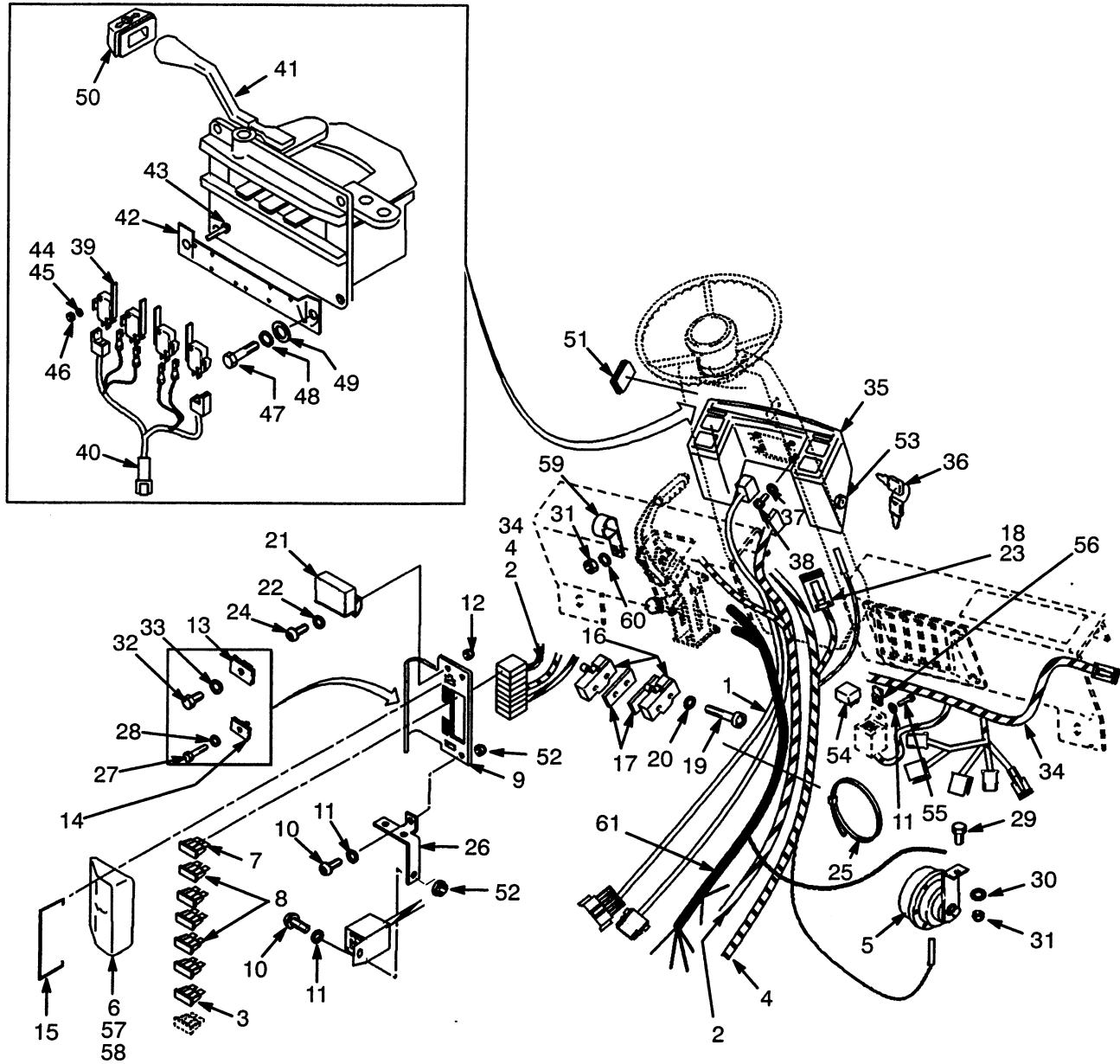
---

**ELECTRICAL SYSTEM (CONTINUED)**

HARNESS (Figure 120) CHASSIS LAST USED ON S/N D177B-35854 .....	Page 218
HARNESS (Figure 121) CHASSIS FIRST USED ON S/N D177B-35855 .....	Page 220
HARNESS (Figure 122) GASOLINE AND LPG 2.0L LAST USED ON S/N D177B-35854 .....	Page 222
HARNESS (Figure 123) GASOLINE AND LPG 2.0L FIRST USED ON S/N D177B-35855 .....	Page 224
HARNESS (Figure 135) LPG FIELD CONVERSION 2.2L .....	Page 248
INSTRUMENT CLUSTER (Figure 153) .....	Page 280
INSTRUMENT PANEL (Figure 152) .....	Page 278
LIGHTS (Figure 155) .....	Page 283
SHIFT LEVER (Figure 154) .....	Page 282
STARTER (Figure 149) GASOLINE AND LPG 2.0L .....	Page 274
STARTER (Figure 150) DIESEL 2.4L, 2.8L & 3.1L .....	Page 275
STARTER (Figure 151) GASOLINE AND LPG 2.2L & 3.0L .....	Page 276
TYPE GS HARNESS (Figure 125) GASOLINE 2.2L .....	Page 228

## This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

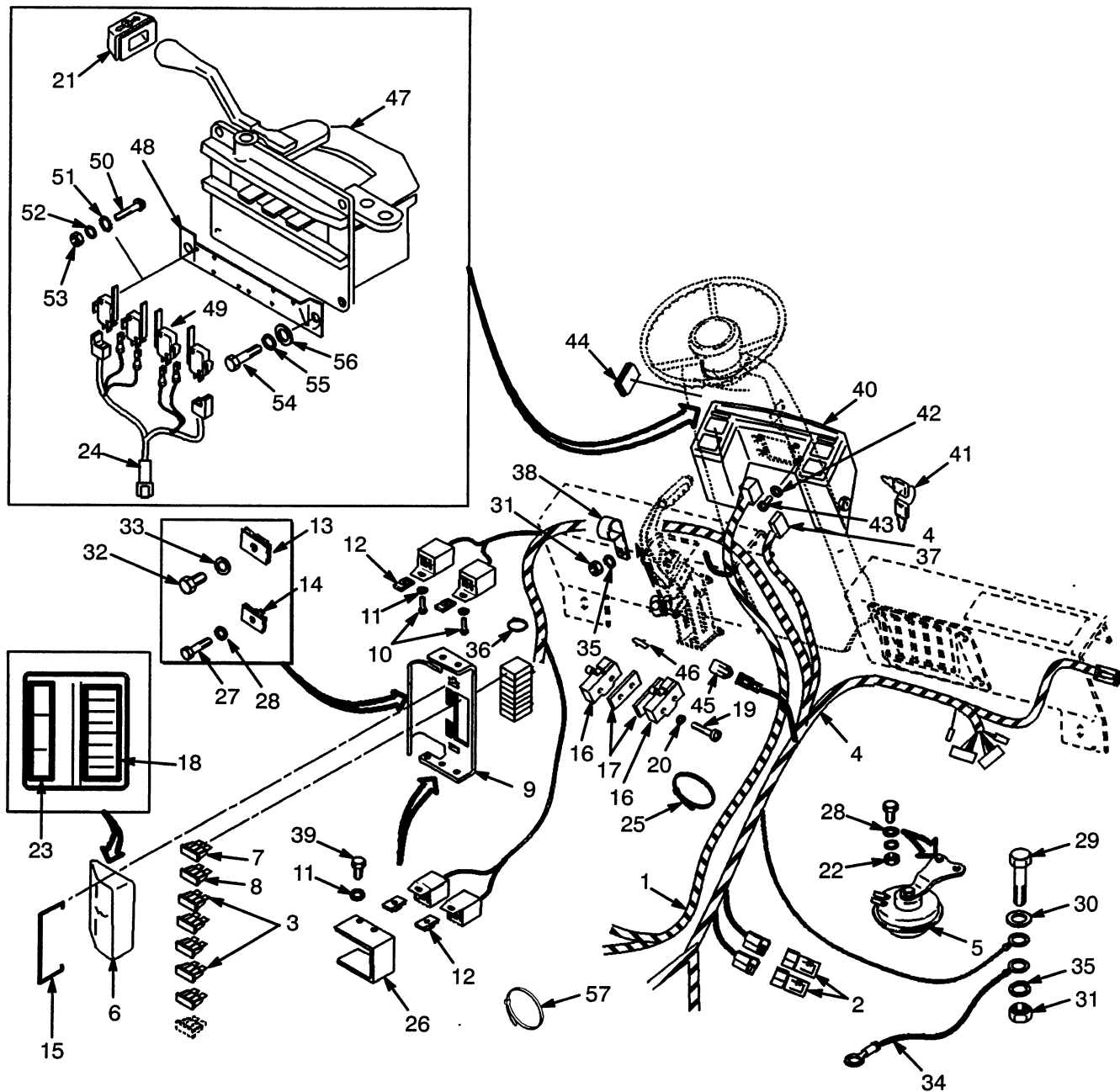
## ELECTRICAL-COWL (Figure 103) LAST USED ON S/N D177B-35854



**ELECTRICAL-COWL**  
**LAST USED ON S/N D177B-35854**

REF	PART NO.	NAME OF PART	QTY	REF	PART NO.	NAME OF PART	QTY
1	.....	Harness-Cluster .....	1	34	.....	Harness-Lighting .....	1
		☞ Figure 107				☞ Figure 110	
2	.....	Harness-Cluster Power .....	1	35	.....	Instrument Cluster .....	1
		☞ Figure 109				☞ Figure 153	
3	1320669	Fuse (30 Amp) .....	1	36	1337197	Key .....	1
4	.....	Harness-Cowl .....	1	37	292680	Spring Washer .....	4
		☞ Figure 105		38	292500	Capscrew .....	4
5	1383778	Horn .....	1	39 <sup>c</sup>	1343636	Switch .....	4
6	370863	Cover .....	1	40 <sup>c</sup>	.....	Harness (Fwd/Rev) .....	1
7	370646	Fuse (5 Amp) .....	1			☞ Figure 111	
8	370647	Fuse (10 Amp) .....	2	41 <sup>c</sup>	.....	Shift Lever .....	1
9	1354088	Bracket .....	1			☞ Figure 154	
10	302244	Capscrew .....	4	42 <sup>c</sup>	1343595	Plate .....	1
11	320155	Washer .....	8	43 <sup>c</sup>	220426	Screw .....	8
12	316833	Nut .....	3	44 <sup>c</sup>	53162	Lockwasher .....	8
13	1350282	Nut .....	1	45 <sup>c</sup>	18419	Lockwasher .....	8
14	1354323	Nut .....	1	46 <sup>c</sup>	16865	Nut .....	8
15	370864	Latch .....	1	47 <sup>c</sup>	292500	Capscrew .....	4
16	370868	Switch .....	2	48 <sup>c</sup>	292680	Lockwasher .....	4
16 <sup>a</sup>	387869	Boot .....	2	49 <sup>c</sup>	320156	Washer .....	4
17	316132	Spacer .....	2	50 <sup>c</sup>	1343596	Bracket .....	1
18 <sup>b</sup>	1330412	Connector .....	1	51 <sup>b</sup>	1343597	Plug .....	1
19	86510	Screw .....	4	52	1376581	U Nut .....	2
20	138573	Lockwasher .....	4	53	.....	Ignition Switch .....	1
21	157554	Horn Relay .....	1			☞ Figure 153	
21 <sup>a</sup>	272155	Boot .....	1	54 <sup>d</sup>	1347114	Reverse Light Relay .....	1
22	197067	Washer .....	2	55 <sup>d</sup>	302245	Screw .....	1
23 <sup>b</sup>	1330439	Plug .....	6	56 <sup>d</sup>	1376581	U Nut .....	1
24	296151	Capscrew .....	2	57	1365859	Label (Fuse Panel) .....	1
25	273775	Clamp .....	AR	58	1365860	Label (Cab Fuses) .....	1
26	1354264	Bracket .....	1	59	196395	Clamp .....	2
27	292501	Screw .....	1	60	292681	Washer .....	2
28	320156	Washer .....	1	61	.....	Wire Harness (Optional) .....	1
29	176640	Capscrew .....	1			☞ Figure 256	
30	320158	Washer .....	1	<sup>a</sup>	Types GS,LPS and DS		
31	292654	Nut .....	3	<sup>b</sup>	Monotrol Pedal		
32	136681	Capscrew .....	1	<sup>c</sup>	Forward/Reverse Lever		
33	320157	Washer .....	1	<sup>d</sup>	First Used On S/N D177B-10149		

## ELECTRICAL-COWL (Figure 104) FIRST USED ON S/N D177B-35855

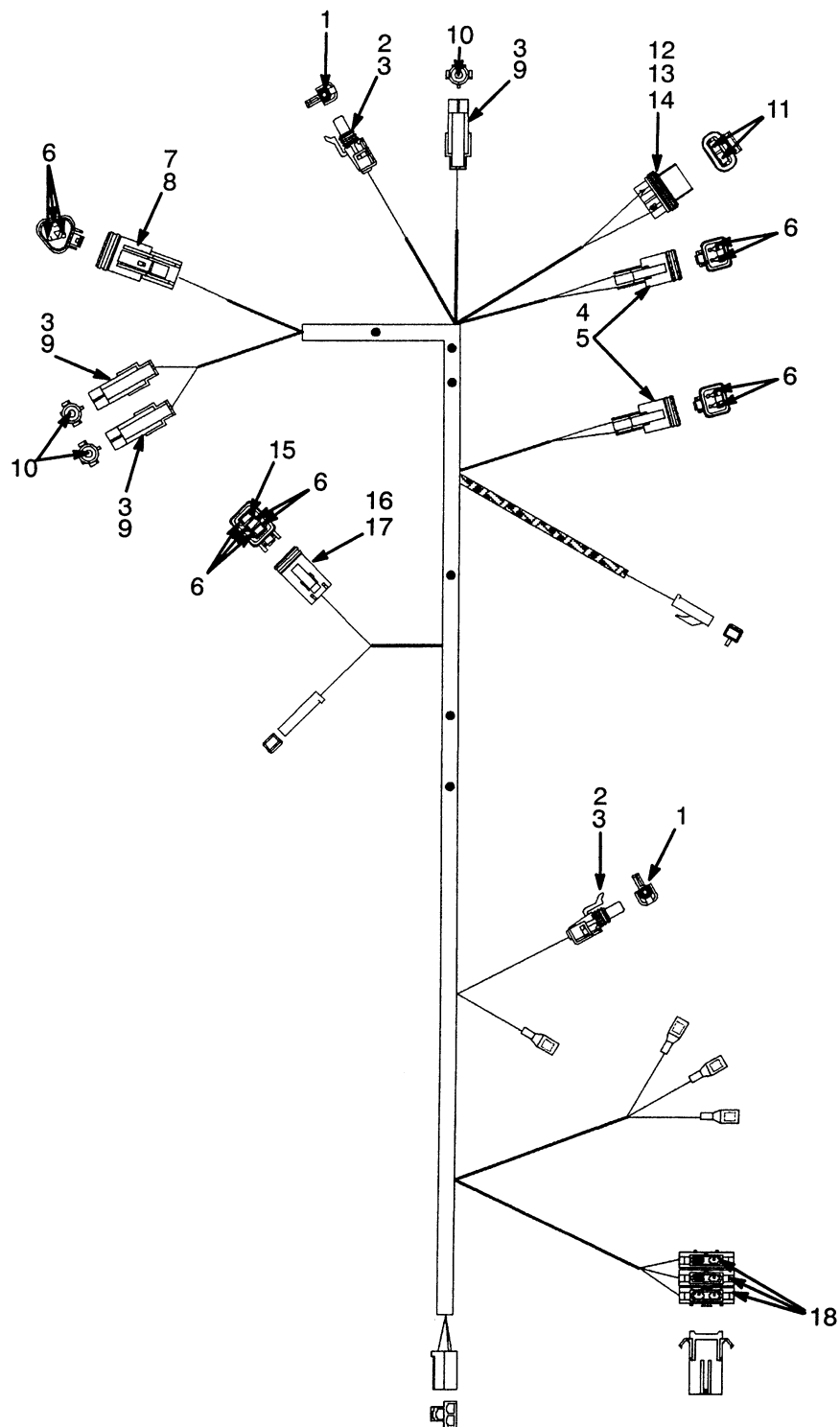


**ELECTRICAL-COWL**  
**FIRST USED ON S/N D177B-35855**

REF	PART NO.	NAME OF PART	QTY	REF	PART NO.	NAME OF PART	QTY
1	.....	Harness-Cluster .....	1	31	292654	Nut .....	3
		☞ Figure 109		32	136681	Capscrew .....	1
2	1361305	Diode .....	2	33	320157	Washer .....	1
3	1320669	Fuse (30 Amp) .....	2	34	387892	Wire Assy .....	1
4	.....	Harness-Cowl .....	1	35	292681	Lockwasher .....	3
		☞ Figure 106		36	137852	Strap Clamp .....	1
5	2021957	Horn .....	1	37	322784	Silicone Grease .....	AR
6	370863	Cover .....	1	38	196395	Clamp .....	2
7	370646	Fuse (5 Amp) .....	1	39	302245	Screw .....	2
8	370647	Fuse (10 Amp) .....	1	40	.....	Instrument Cluster .....	1
9	1376748	Bracket .....	1			☞ Figure 153	
10	302244	Screw .....	1	41	1337197	Key Set .....	1
11	320155	Washer .....	3	42	292680	Lockwasher .....	4
12	1376581	U Nut .....	3	43	292500	Capscrew .....	4
13	1350282	Nut .....	1	44	1343597	Plug (Monotrol Pedal) .....	1
14	1354323	Nut .....	1	45	1351683	End Cap Connector (Monotrol Pedal) .....	1
15	370864	Latch .....	1	46	1361121	Connector (Blade) (Forward/Reverse Lever) .....	1
16	370868	Switch .....	1	47	1347004	Shift Lever Assy (Forward/Reverse Lever) .....	1
16 <sup>a</sup>	387869	Boot (Monotrol Pedal) .....	2	48	1343595	Switch Plate (Forward/Reverse Lever) .....	1
17	316132	Spacer .....	1	49	1343636	Switch (Forward/Reverse Lever) .	4
17	316132	Spacer (Monotrol Pedal) .....	2	50	220426	Screw (Forward/Reverse Lever) .	8
18	1389485	Label (Fuse Panel) .....	1	51	53162	Lockwasher (Forward/Reverse Lever) .....	8
19	86510	Screw .....	2	52	18419	Lockwasher (Forward/Reverse Lever) .....	8
19	86510	Screw (Monotrol Pedal) .....	4	53	16865	Nut (Forward/Reverse Lever) ....	8
20	138573	Washer .....	2	54	292500	Capscrew (Forward/Reverse Lever) .....	4
20	138573	Washer (Monotrol Pedal) .....	2	55	262680	Lockwasher (Forward/Reverse Lever) .....	4
21	1343596	Bracket (Forward/Reverse Lever) .	1	56	320156	Washer (Forward/Reverse Lever) .....	4
22	313805	Nut .....	2	57	1352606	Clamp .....	1
23	1365860	Label (Accessory Fuses) .....	1				
24	.....	Harness (Forward/Reverse Lever) .....	1				
		☞ Figure 111		<sup>a</sup>	Types GS, LPS, And DS		
25	129563	Strap Clamp .....	AR				
26	1389475	Bracket .....	1				
27	292501	Capscrew .....	3				
28	320156	Washer .....	3				
29	176640	Capscrew .....	1				
30	320158	Washer .....	1				



## HARNESS (Figure 105) COWL LAST USED ON S/N D177B-35854



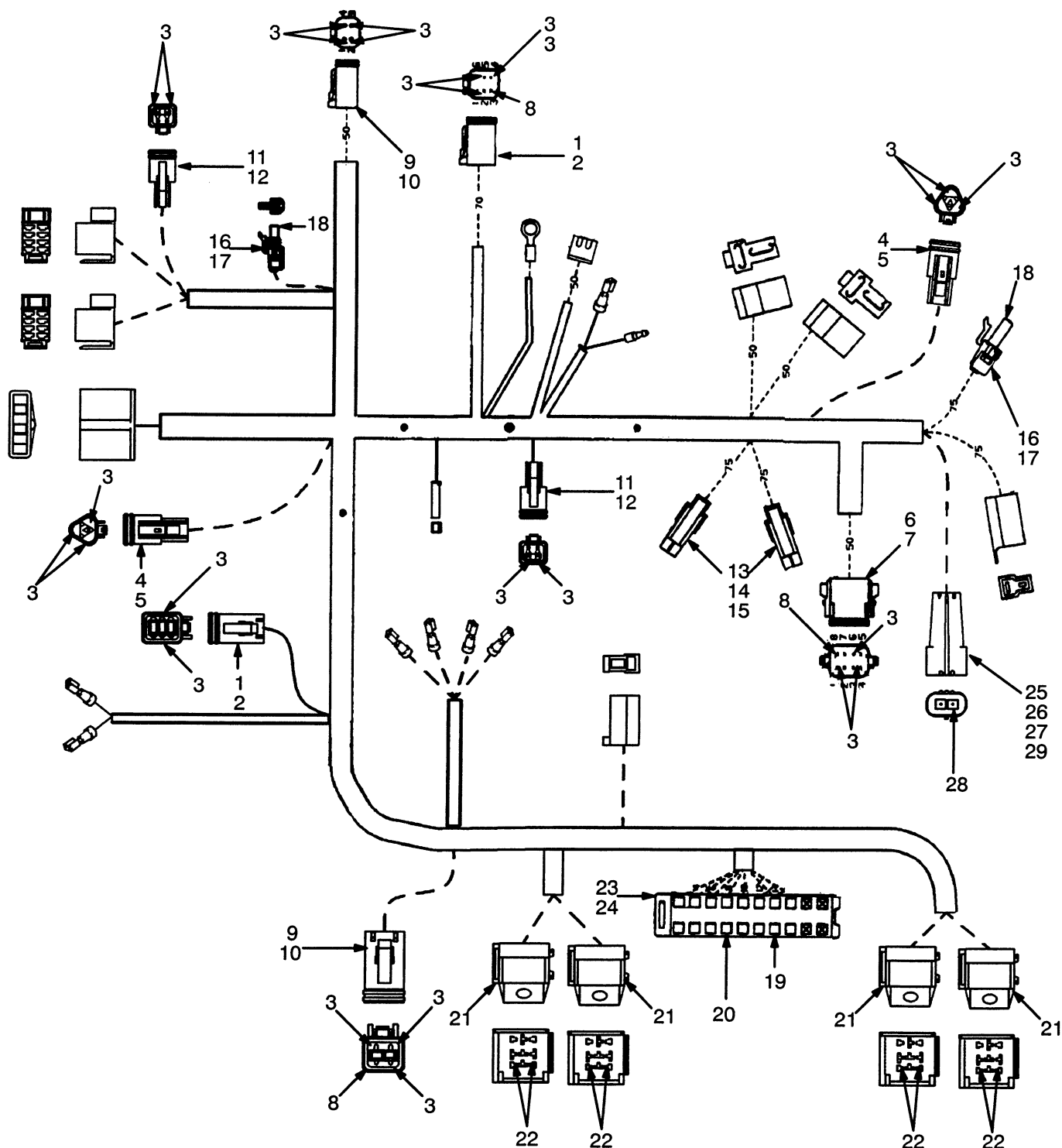
**HARNESS**  
**COWL**  
**LAST USED ON S/N D177B-35854**

REF	PART NO.	NAME OF PART	QTY	REF	PART NO.	NAME OF PART	QTY
	1347137	Harness-Cowl .....	1	10	1334999	Pin .....	3
1	1330299	Connector .....	2	11	1337392	Terminal .....	2
2	1336173	Socket .....	2	12	1336870	Connector .....	1
3	1329147	Seal .....	5	13	1336871	Lock .....	1
4	1330419	Plug .....	2	14	1336874	Seal .....	1
5	1330424	Lock .....	2	15	1330439	Plug .....	1
6	1330434	Socket .....	12	16	1330422	Connector .....	1
7	1330420	Plug .....	1	17	1330428	Lock .....	1
8	1330426	Lock .....	1	18	381846	Fuse Holder .....	3
9	1330298	Body .....	3				

## HARNESS (Figure 106)

### COWL

FIRST USED ON S/N D177B-35855



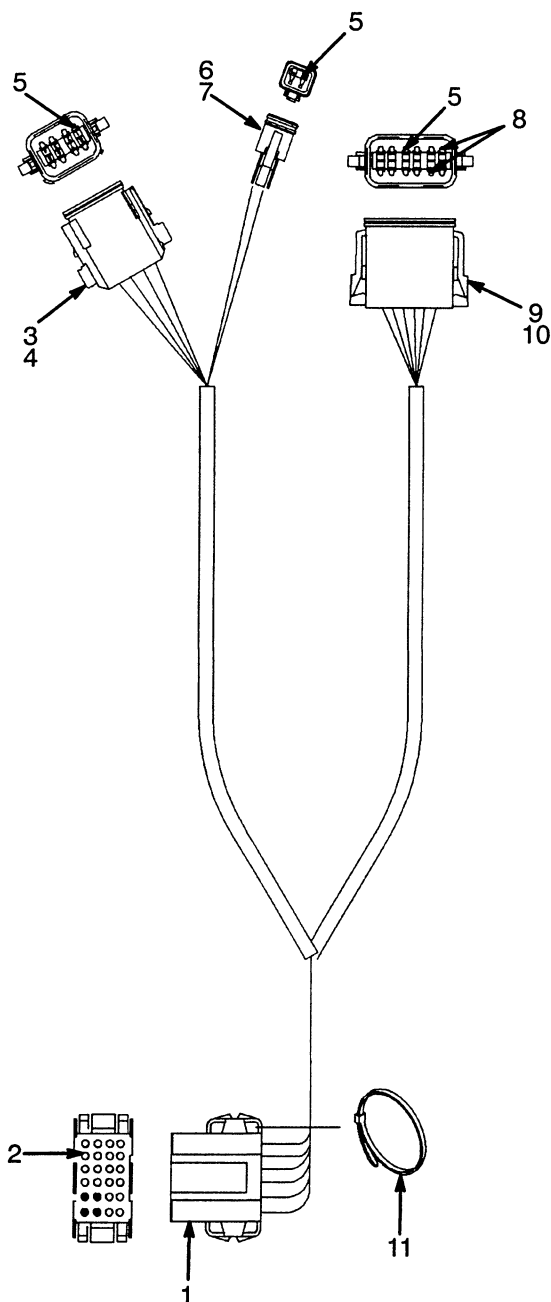
**HARNESS**  
**COWL**  
**FIRST USED ON S/N D177B-35855**

REF	PART NO.	NAME OF PART	QTY	REF	PART NO.	NAME OF PART	QTY
	1376732	Harness-Cowl .....	1	15	1329147	Seal .....	2
1	1330422	Connector .....	2	16	1330299	Connector .....	2
2	1330428	Lock .....	2	17	1329147	Seal .....	2
3	1330438	Socket .....	35	18	1336173	Socket .....	2
4	1330420	Connector .....	2	19	1389479	Terminal .....	14
5	1330426	Lock .....	2	20	1389480	Terminal .....	2
6	1330423	Connector .....	1	21	1347224	Relay Socket .....	4
7	1330429	Lock .....	1	22	1331233	Terminal .....	18
8	1330439	Plug .....	3	23	1389476	Fuse Holder .....	1
9	1330421	Connector .....	2	24	1389477	Lock .....	1
10	1330427	Lock .....	2	25	1336870	Connector .....	1
11	1330419	Connector .....	2	26	1336871	Lock .....	1
12	1330424	Lock .....	2	27	1336874	Seal .....	1
13	1330298	Connector .....	2	28	1337393	Terminal .....	1
14	1334999	Pin .....	2	29	1323581	Plug .....	1

## HARNESS (Figure 107)

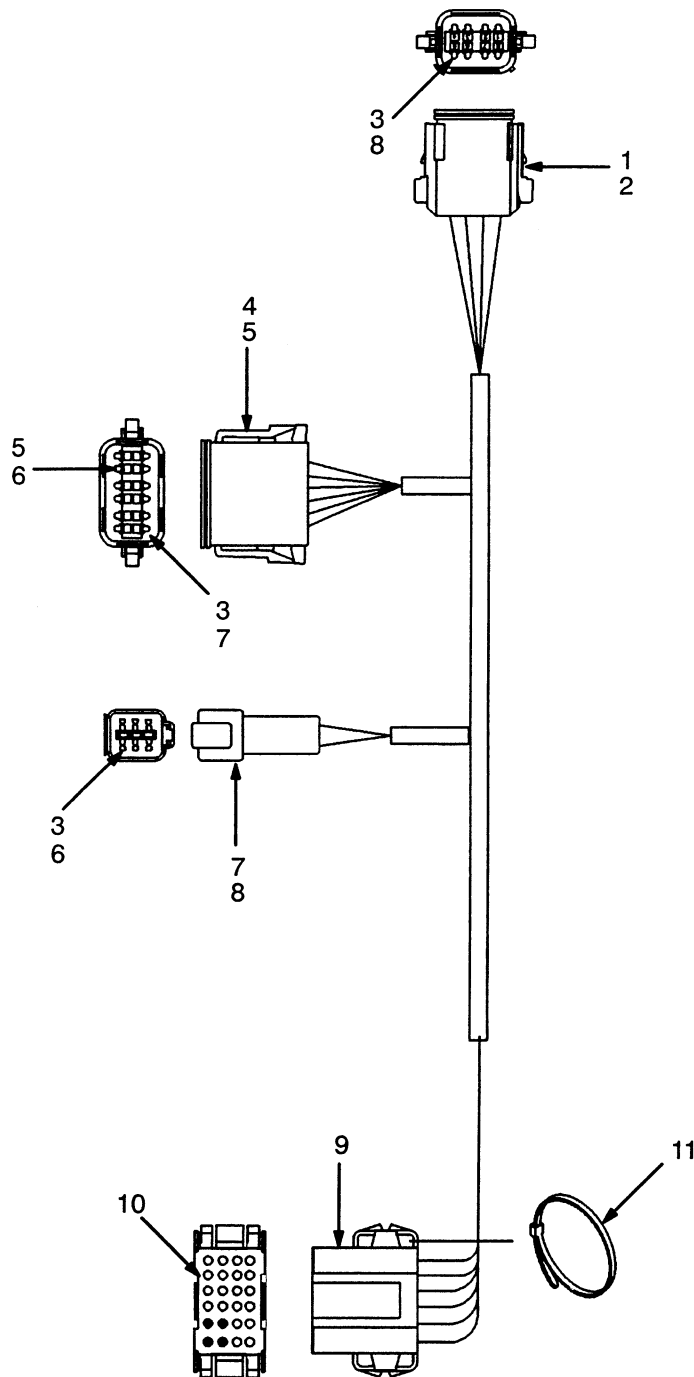
### CLUSTER

LAST USED ON S/N D177B-35854



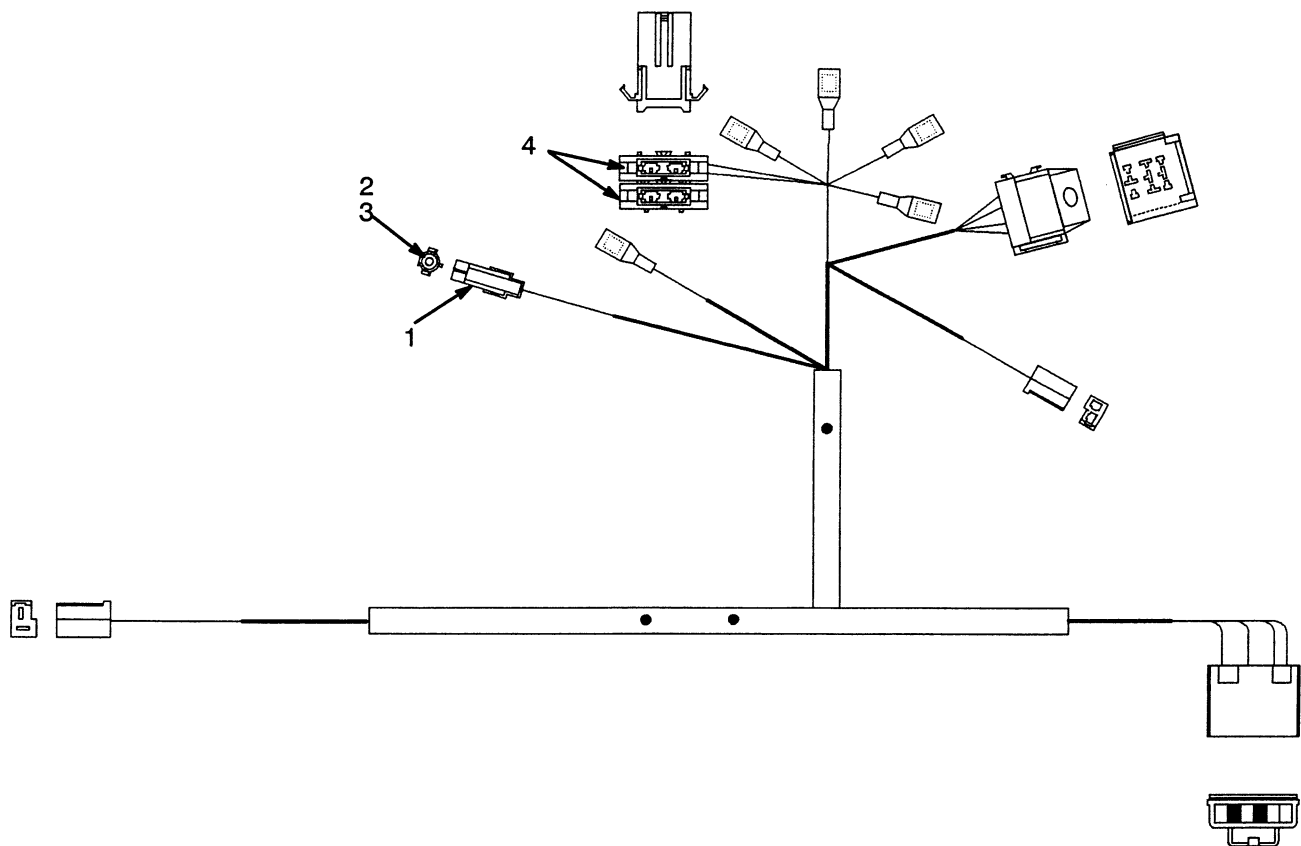
REF	PART NO.	NAME OF PART	QTY	REF	PART NO.	NAME OF PART	QTY
	1352605	Harness-Cluster .....	1	6	1330409	Connector .....	1
1	1352599	Connector Body .....	1	7	1330414	Lock .....	1
2	1352600	Socket .....	20	8	1330439	Plug .....	2
3	1330413	Connector .....	1	9	1352602	Connector .....	1
4	1330418	Lock .....	1	10	1352603	Lock .....	1
5	1330433	Pin .....	20	11	1352606	Tie Strap .....	1

**HARNESS (Figure 108)**  
**CLUSTER**  
**FIRST USED ON S/N D177B-35855**



REF	PART NO.	NAME OF PART	QTY	REF	PART NO.	NAME OF PART	QTY
	1375703	Harness-Cluster .....	1	6	1330439	Plug .....	5
1	1330413	Connector .....	1	7	1330412	Connector .....	1
2	1330418	Lock .....	1	8	1330417	Lock .....	1
3	1330433	Pin .....	21	9	1352599	Housing .....	1
4	1352602	Connector .....	1	10	1340958	Pin .....	20
5	1352603	Lock .....	1	11	1352606	Strap Clamp .....	1

## HARNESS (Figure 109) CLUSTER POWER



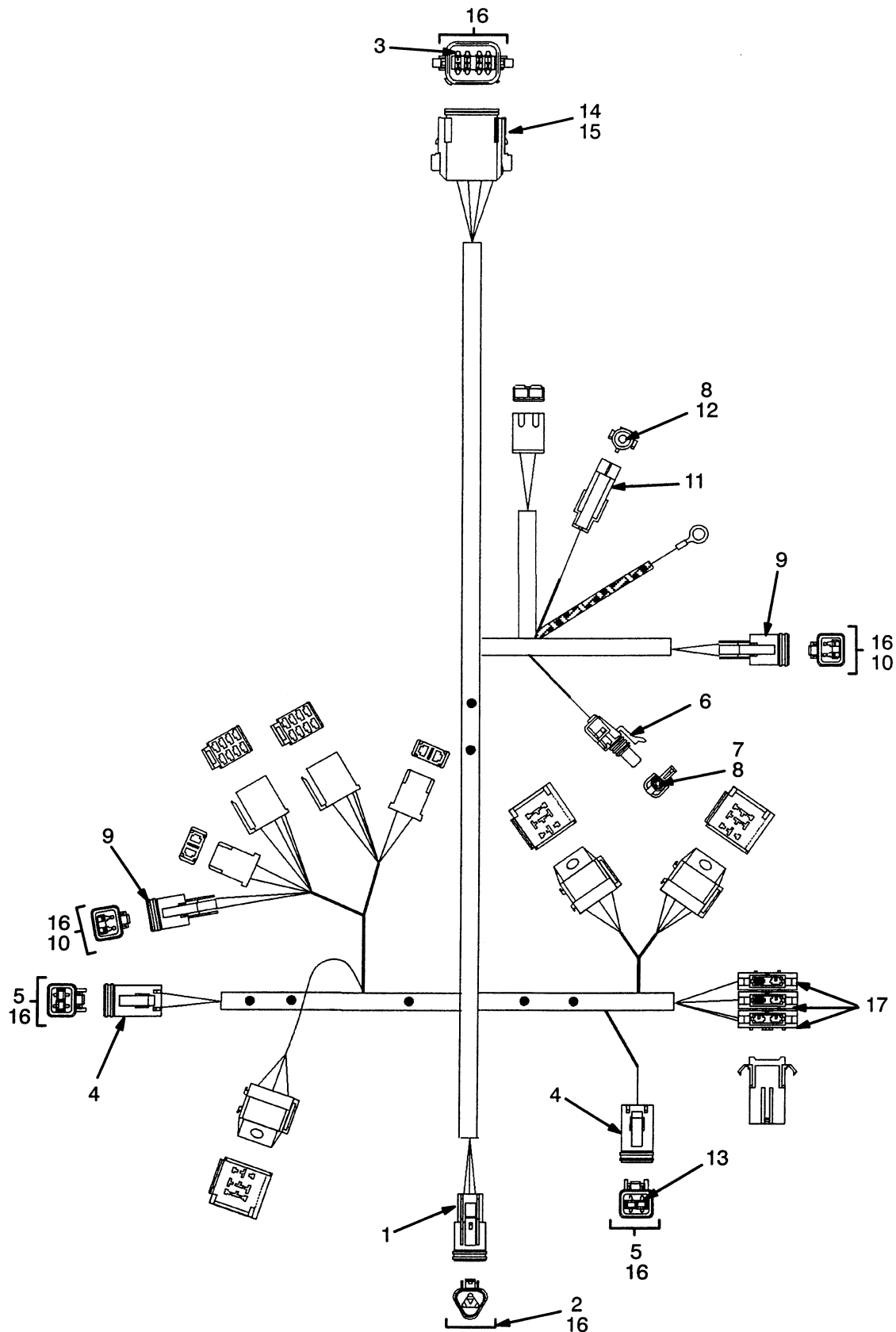
REF	PART NO.	NAME OF PART	QTY
	1352617	Harness-Cluster Power .....	1
a	1450702	Harness-Cluster Power .....	1
a	1367472	Relay .....	1
1	1330298	Connector .....	1
2	1329147	Seal .....	1

REF	PART NO.	NAME OF PART	QTY
3	1334999	Pin .....	1
4	381846	Fuse Holder .....	2
a	Last Used On S/N D177B-35854		

## This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.



## HARNESS (Figure 110) LIGHTING LAST USED ON S/N D177B-35854

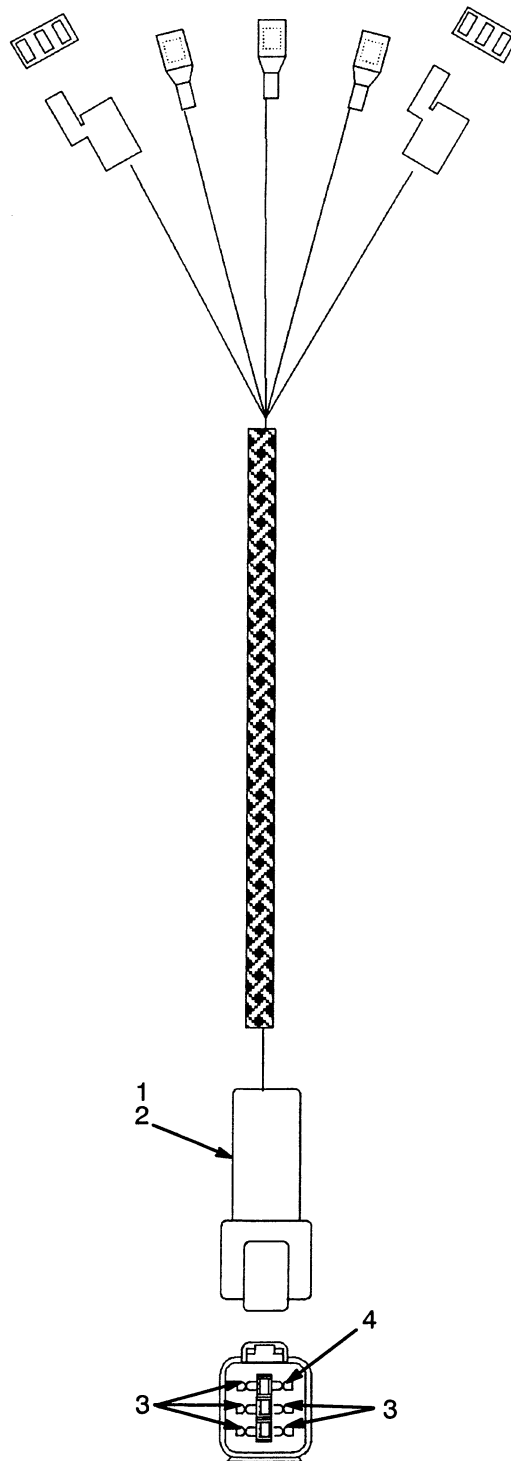


**HARNESS**  
**LIGHTING**  
**LAST USED ON S/N D177B-35854**

REF	PART NO.	NAME OF PART	QTY	REF	PART NO.	NAME OF PART	QTY
	1376590	Harness-Lighting .....	1	9	1330419	Connector .....	2
1	1330420	Plug .....	1	10	1330424	Lock .....	2
2	1330426	Lock .....	1	11	1330298	Connector .....	1
3	1330436	Socket .....	1	12	1334999	Pin .....	1
4	1330421	Connector .....	2	13	1330439	Plug .....	1
5	1330427	Lock .....	2	14	1330423	Connector .....	1
6	1330299	Connector .....	1	15	1330429	Lock .....	1
7	1336173	Socket .....	1	16	1330438	Socket .....	21
8	1329147	Seal .....	2	17	381846	Fuse Holder .....	3

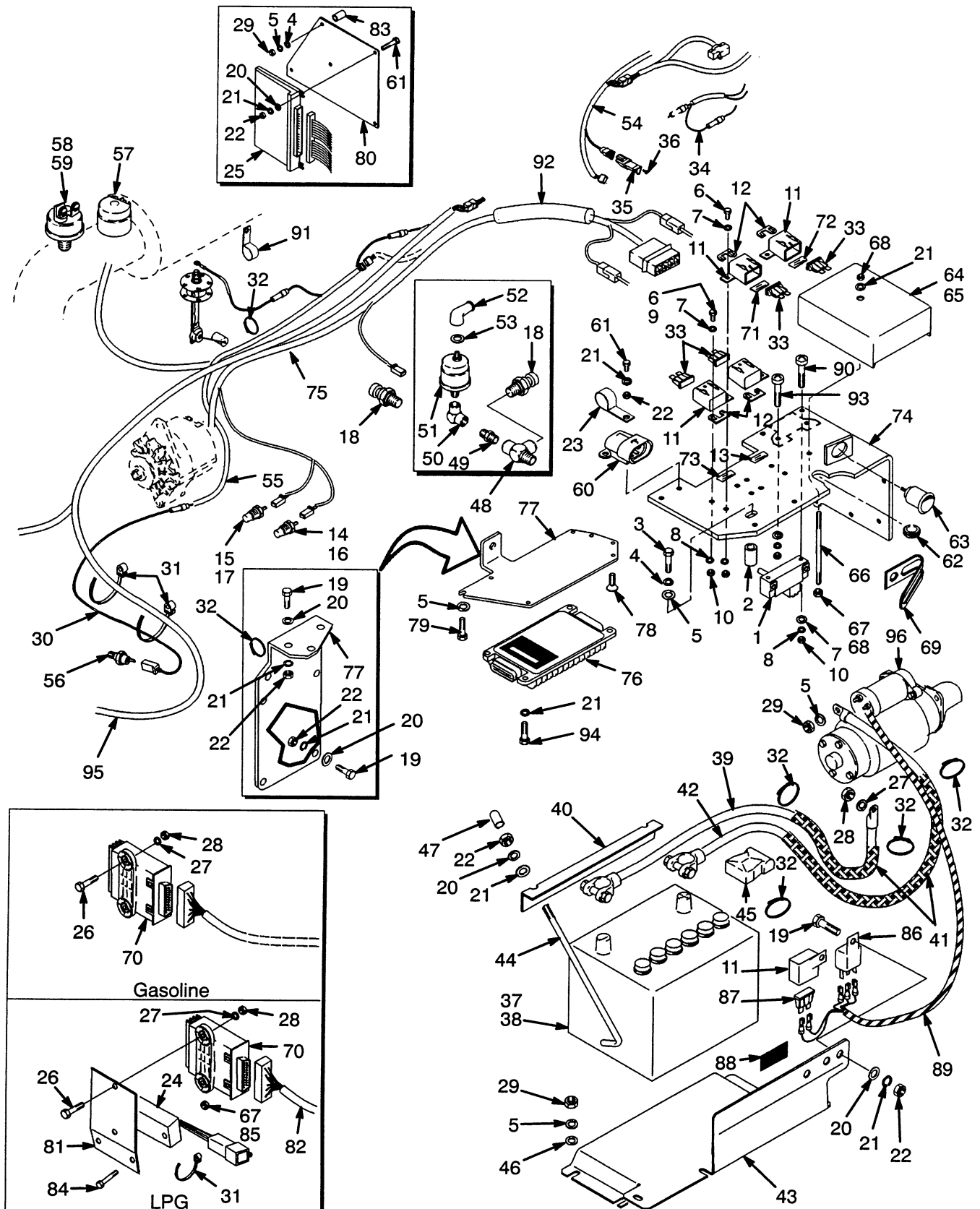
## This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

**HARNESS (Figure 111)**  
**FORWARD AND REVERSE LEVER**



REF	PART NO.	NAME OF PART	QTY	REF	PART NO.	NAME OF PART	QTY
	1352088	Harness-Fwd/Rev .....	1	3	1330435	Pin .....	5
1	1330412	Connector .....	1	4	1330439	Plug .....	1
2	1330417	Lock .....	1				

## ELECTRICAL (Figure 112) GASOLINE AND LPG 2.2L



**ELECTRICAL**  
**GASOLINE AND LPG 2.2L**

**KEY:**  
**A:** Gasoline  
**B:** LPG

REF	PART NO.	NAME OF PART	QTY		REF	PART NO.	NAME OF PART	QTY	
			A	B				A	B
1	1314387	Sensor .....	1	1	37	f	1383331 Wet Battery .....	1	1
2	1351059	Spacer .....	1	1	37	ae	309153 Wet Battery .....	1	1
3	136704	Capscrew .....	1	1	38	a	177894 Dry Battery .....	1	1
4	320158	Washer .....	1	3	39		153933 Battery Cable .....	1	1
5	292681	Washer .....	7	7	40		1354379 Battery Bracket .....	1	1
6	16708	Screw .....	10	2	41		275499 Conduit .....	ARAR	
7	197067	Washer .....	12	4	42		986236 Battery Cable .....	1	1
8	15152	Washer .....	12	4	43		1458009 Battery Tray .....	1	1
9	14503	Screw .....	2	2	44		309124 Battery Holddown Link .....	2	2
10	15002	Nut .....	12	4	45		257241 Boot .....	1	1
11	1330293	Fuse Cover .....	5	2	46		320157 Washer .....	3	3
12	1339444	Clip .....	4	1	47		1326939 Cap .....	2	2
13	1352612	Label .....	1	1	48	a	17216 Fitting .....	1	1
14		Coolant Sensor .....	1	1	49	a	16167 Fitting .....	1	1
		☞ Figure 27			50	a	69392 Fitting .....	1	1
15	273338	Thread Sealant .....	ARAR		51	a	1356108 Oil Pressure Sender .....	1	1
16		Reducer .....	1	1	52	a	190383 Boot .....	1	1
		☞ Figure 27			53	a	197067 Washer .....	1	1
17	1319190	Temperature Sender .....	1	1	54	b	1352066 Neutral Start Harness .....	1	1
18		Fuel Pump Switch .....	1	1	55		Chassis Harness .....	1	1
		☞ Figure 21					☞ Figure 120		
19	292501	Capscrew .....	7	2	56		1356105 Low Coolant Sender .....	1	1
20	320156	Washer .....	8	8	57		1347067 Air Filter Sender .....	1	1
21	292680	Lockwasher .....	10	8	58		1351133 Low Pressure Switch .....	1	1
22	136687	Nut .....	11	8	59		190383 Boot .....	2	2
23	122175	Clamp .....	1	..	60		1330301 Fuel Pump Relay .....	1	..
24	1354125	Rev Limiter .....	1	1	61		292500 Capscrew .....	2	3
25	2035530	MSTS Controller .....	1	1	62		279737 Grommet .....	1	..
26	302250	Screw .....	2	2	63		Power Connector .....	1	..
27	292679	Washer .....	3	3	63		1369499 Power Connector .....	1	..
28	292668	Nut .....	3	3	63		251099 Sealant .....	AR	..
29	239503	Nut .....	4	6	64		1339434 Cover .....	1	..
30	1354202	Low Coolant Harness .....	1	1	65		1339459 Label .....	1	..
31	1356125	Clamp .....	2	2	66		1368074 Stud .....	1	..
32	273775	Strap Clamp .....	ARAR		67		1368071 Adhesive .....	ARAR	
33	370647	Blade Fuse .....	4	1	68		302399 Nut .....	2	..
34	1354385	Diode Harness .....	2	2	69		2022013 Clamp .....	1	1
35	1330410	Connector Body .....	1	1	70		1327951 Governor Module .....	1	..
36	1330439	Plug .....	3	3	70		1352645 Governor Module .....	1	1

CONTINUED ON NEXT PAGE

## ELECTRICAL

### GASOLINE AND LPG 2.2L

(Figure 112 Continued)

**KEY:**

**A:** Gasoline

**B:** LPG

REF	PART NO.	NAME OF PART	QTY	
			A	B
71	1354373	Label .....	1	..
72	1352178	Label .....	1	..
73	1339461	Label .....	1	..
74	1351094	Bracket .....	1	..
74	1351095	Bracket .....	..	1
75 <b>c</b>	.....	Engine Harness .....	1	..
		☞ Figure 124		
75 <b>d</b>	.....	Engine Harness .....	1	..
		☞ Figure 124		
75	.....	Engine Harness .....	..	1
		☞ Figure 128		
76	1376718	Control Module .....	1	..
76	1376719	Control Module (High Altitude)	1	..
77 <b>c</b>	1367462	Bracket .....	1	..
77 <b>d</b>	1368998	Bracket .....	1	..
78 <b>c</b>	296215	Capscrew .....	2	..
79	136749	Capscrew .....	2	..
80	1367474	Bracket .....	..	1
81	1356313	Plate .....	..	1
82	1352625	Governor Harness .....	..	1
83	376505	Spacer .....	..	2
84	302027	Screw .....	..	2
85	292667	Nut .....	..	2
86	1367472	Relay (70A) .....	1	1

REF	PART NO.	NAME OF PART	QTY	
			A	B
87	1320669	Fuse (30A) .....	1	1
88	1367640	Label .....	1	1
89	1367473	Harness .....	1	1
90	16704	Screw .....	2	2
91	136516	Clamp .....	1	..
92	275497	Conduit .....	AR	..
92	275496	Conduit .....	..	AR
93	220318	Screw .....	2	..
94 <b>c</b>	287817	Screw .....	4	..
95	1359624	Light Harness (Chassis) .....	1	1
96 <b>g</b>	.....	Starter Motor .....	1	1
		☞ Figure 151		
96 <b>h</b>	.....	Starter Motor .....	1	1
		☞ Figure 151		

**a** Optional

**b** Monotrol Pedal

**c** Last Used On S/N D177B-6045

**d** First Used On S/N D177B-6046

**e** Last Used On S/N D177B-22587

**f** First Used On S/N D177B-22588

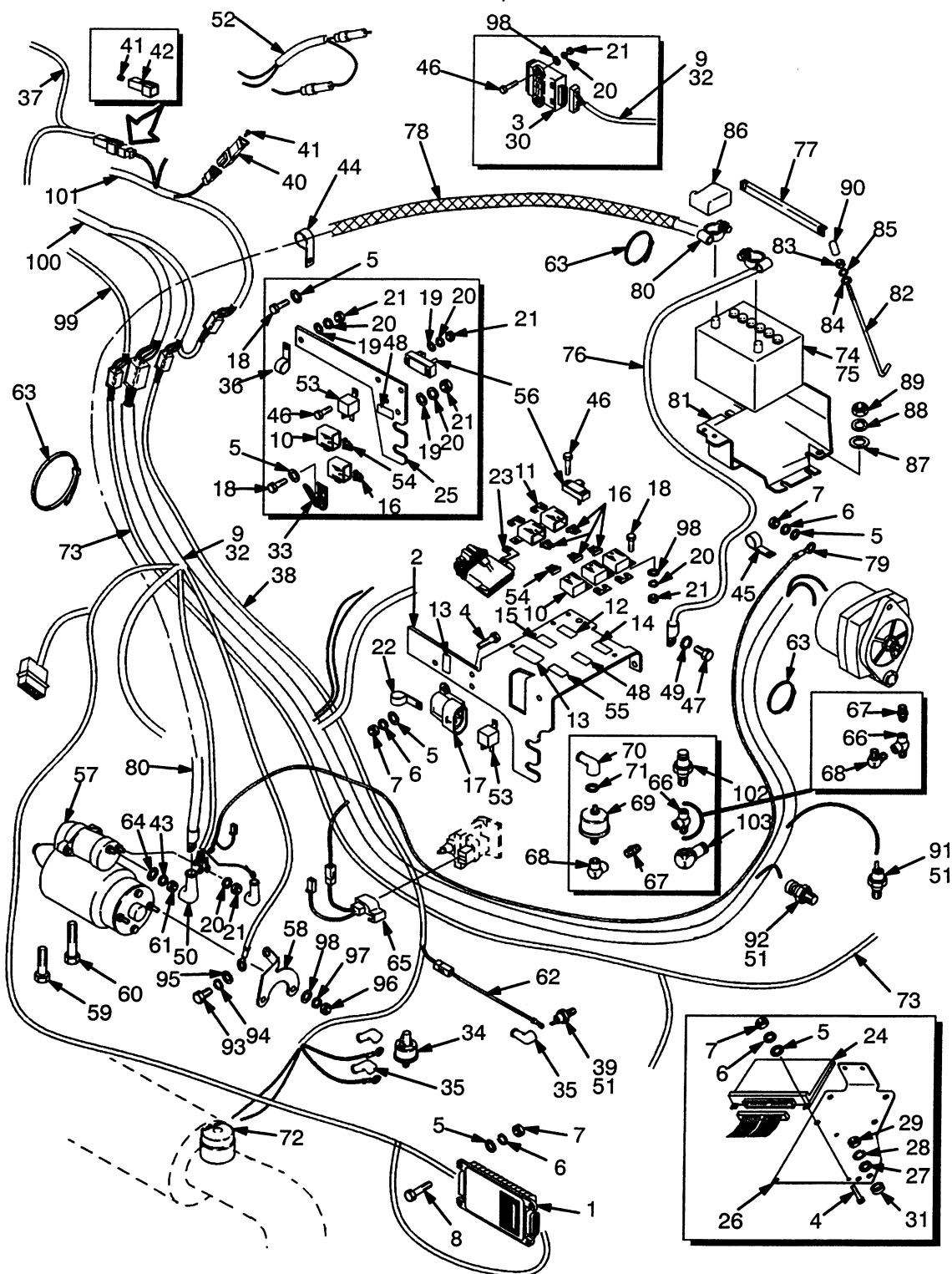
**g** Last Used On S/N Pending Per ECN 72863

**h** First Used On S/N Pending Per ECN 72863

[illegible]



## ELECTRICAL (Figure 113) GASOLINE AND LPG 3.0L LAST USED ON S/N D177B-35854



**ELECTRICAL**  
**GASOLINE AND LPG 3.0L**  
**LAST USED ON S/N D177B-35854**

**KEY:**

**A:** Gasoline  
**B:** LPG

				QTY						QTY	
REF	PART NO.	NAME OF PART		A	B	REF	PART NO.	NAME OF PART		A	B
1	1376712	Control Module .....	1	..		35	190383	Boot .....	1	3	
1	<sup>d</sup> 1376713	Control Module (Low Noise) ..	1	..		36	101625	Clamp .....	..	1	
2	1375787	Bracket .....	1	..		37	<sup>a</sup> 1352066	Neutral Start Harness .....	1	1	
3	1327951	Governor Module .....	1	..		38	1351083	Chassis Wire Harness .....	1	1	
4	292500	Capscrew .....	3	3		39	1356105	Low Coolant Sender .....	1	1	
5	320156	Washer .....	8	7		40	<sup>c</sup> 1330410	Connector .....	1	1	
6	292680	Lockwasher .....	8	4		41	<sup>c</sup> 1330439	Plug .....	5	5	
7	136687	Nut .....	8	4		42	<sup>c</sup> 1330409	Connector .....	1	1	
8	292503	Capscrew .....	4	..		43	292681	Lockwasher .....	1	1	
9	.....	Engine Harness .....	1	..		44	325897	Clamp .....	1	1	
		☞ Figure 126				45	122175	Clamp .....	1	1	
10	1330293	Fuse Holder .....	5	2		46	302250	Screw .....	4	4	
11	1339444	Clip .....	4	..		47	18535	Capscrew .....	1	1	
12	1339461	Label .....	1	..		48	1352612	Label .....	1	1	
13	1339459	Label .....	1	..		49	15156	Lockwasher .....	1	1	
14	1352178	Label .....	1	..		50	204223	Boot .....	1	1	
15	1354373	Label .....	1	..		51	273338	Sealant .....	ARAR		
16	370647	Fuse (10 Amp) .....	4	1		52	1354385	Diode Harness .....	2	2	
17	1330301	Relay (Fuel Pump) .....	1	..		53	1375844	Relay (60 Amp) .....	1	1	
18	302246	Screw .....	7	3		54	1320669	Fuse (30 Amp) .....	1	1	
19	320155	Washer .....	5	1		55	1367640	Label .....	1	1	
20	292679	Lockwasher .....	12	8		56	1314387	Sensor .....	1	1	
21	292668	Nut .....	12	8		57	.....	Starter .....	1	1	
22	101625	Clamp .....	1	..				☞ Figure 151			
23	1376661	Clip .....	1	..		58	1375135	Bracket .....	1	1	
24	2035531	MSTS Controller .....	..	1		59	1375157	Capscrew .....	1	1	
25	1375847	Bracket .....	..	1		60	1375158	Capscrew .....	1	1	
26	1376655	Bracket .....	..	1		61	239503	Nut .....	1	1	
27	320158	Washer .....	..	3		62	1354201	Harness .....	1	1	
28	292681	Lockwasher .....	..	3		63	273775	Strap Clamp .....	ARAR		
29	239503	Nut .....	..	3		64	320157	Washer .....	1	1	
30	1352645	Governor Module .....	..	1		65	1314392	Wire Assy .....	1	1	
30	<sup>d</sup> 1376706	Governor Module (Low Noise) ..	..	1		66	<sup>b</sup> 17216	Fitting .....	1	1	
31	1375848	Spacer .....	..	3		67	<sup>bg</sup> 16167	Fitting .....	1	1	
32	.....	Engine Harness .....	..	1		67	<sup>bh</sup> 16187	Fitting .....	1	1	
		☞ Figure 129				68	<sup>bg</sup> 69392	Fitting .....	1	1	
33	1360146	Clamp .....	..	3		68	<sup>bh</sup> 17314	Fitting .....	1	1	
34	1351133	Low Pressure Switch .....	..	1		69	<sup>b</sup> 1356108	Oil Pressure Switch .....	1	1	

**CONTINUED ON NEXT PAGE**

## ELECTRICAL

### GASOLINE AND LPG 3.0L

### LAST USED ON S/N D177B-35854

(Figure 113 Continued)

**KEY:**

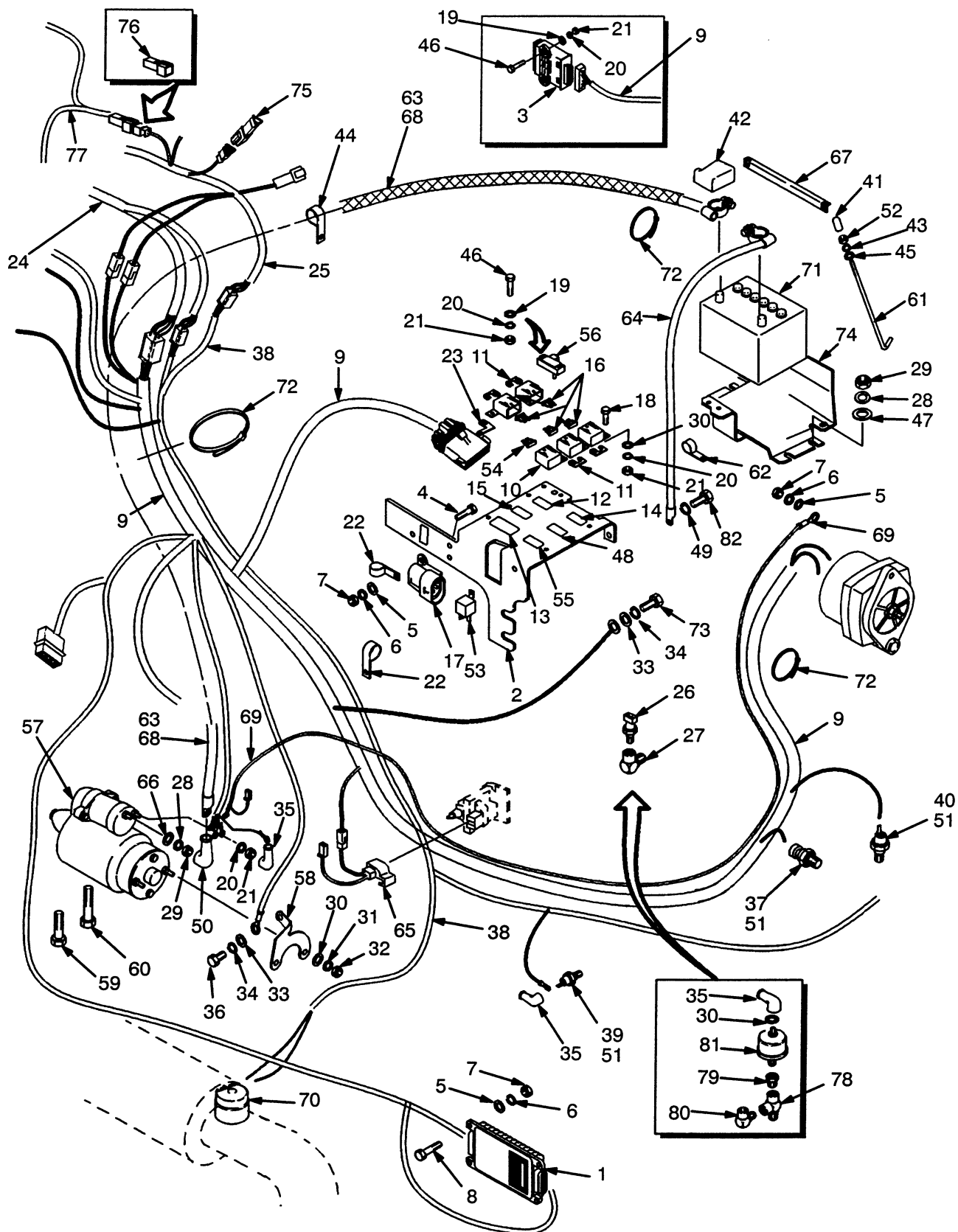
**A:** Gasoline

**B:** LPG

REF	PART NO.	NAME OF PART	QTY		REF	PART NO.	NAME OF PART	QTY	
			A	B				A	B
70	<b>b</b> 190383	Boot .....	1	1	92	1314381	Coolant Sensor .....	1	1
71	<b>b</b> 197067	Washer .....	1	1	93	18496	Capscrew .....	1	1
72	<b>b</b> 1347067	Air Filter Sender .....	1	1	94	15155	Lockwasher .....	1	1
73	1359624	Light Harness (Chassis) .....	1	1	95	18515	Washer .....	1	1
74	<b>f</b> 1383331	Battery (Wet) .....	1	1	96	15052	Nut .....	2	2
74	<b>be</b> 309153	Battery (Wet) .....	1	1	97	15152	Lockwasher .....	2	2
75	<b>b</b> 177894	Battery (Dry) .....	1	1	98	197067	Washer .....	8	8
76	267530	Battery Cable .....	1	1	99	.....	Light Harness (Cowl) .....	1	1
77	1354379	Plate .....	1	1			☞ Figure 103		
78	275496	Conduit .....	AR	AR	100	.....	Cluster Harness .....	1	1
79	1376612	Harness (Starter Alternator) ..	1	1			☞ Figure 107		
80	119388	Battery Cable .....	1	1	101	.....	Cluster Power Harness .....	1	1
81	1458009	Battery Tray .....	1	1			☞ Figure 109		
82	309124	Link .....	2	2	102	1375878	Oil Pressure Switch .....	1	1
83	136687	Nut .....	2	2	103	1376767	Fitting .....	1	1
84	18500	Washer .....	2	2			<b>a</b> Monotrol Pedal		
85	292680	Lockwasher .....	2	2			<b>b</b> Optional		
86	257241	Boot .....	1	1			<b>c</b> Forward/Reverse Lever		
87	320158	Washer .....	3	3			<b>d</b> D177B-20580		
88	292681	Lockwasher .....	3	3			<b>e</b> Last Used On S/N D177B-22587		
89	239503	Nut .....	3	3			<b>f</b> First Used On S/N D177B-22588		
90	1326939	Cap .....	2	2			<b>g</b> Last Used On S/N D177B-20579		
91	1319190	Temperature Sender .....	1	1			<b>h</b> First Used On S/N D177B-20580		

## This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

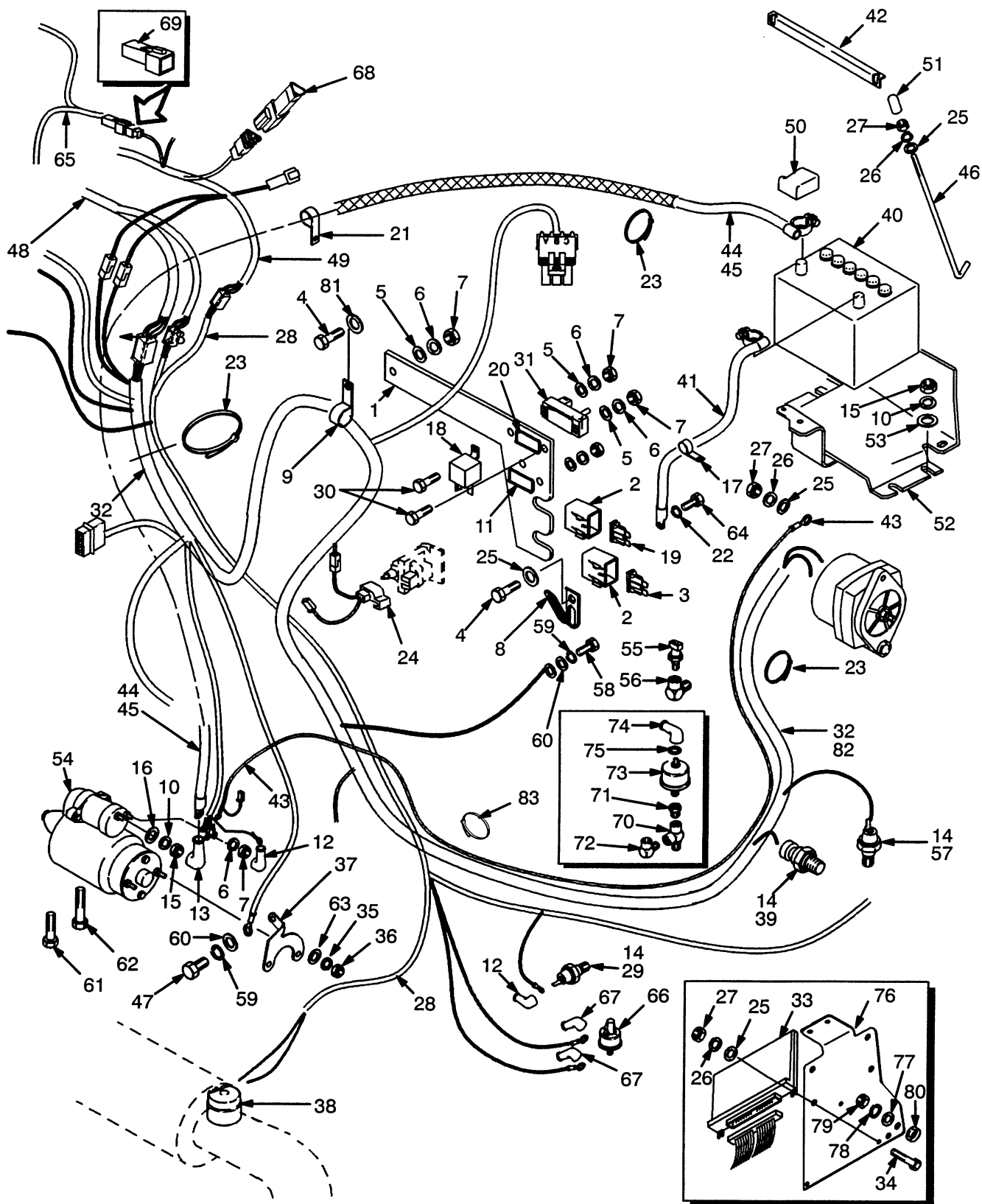
## ELECTRICAL (Figure 114) GM 3.0L GASOLINE FIRST USED ON S/N D177B-35855



**ELECTRICAL**  
**GM 3.0L GASOLINE**  
**FIRST USED ON S/N D177B-35855**

REF	PART NO.	NAME OF PART	QTY	REF	PART NO.	NAME OF PART	QTY
1	1376712	Control Module .....	1	42	257241	Boot .....	1
1	1376713	Control Module (Low Noise) .....	1	43	292680	Lockwasher .....	2
2	1375787	Bracket .....	1	44	325897	Clamp .....	1
3	1327951	Governor Module .....	1	45	320156	Washer .....	2
4	292500	Capscrew .....	3	46	302250	Screw .....	4
5	320156	Washer .....	8	47	320158	Washer .....	3
6	292680	Lockwasher .....	8	48	1352612	Label .....	1
7	136687	Nut .....	8	49	15156	Lockwasher .....	1
8	287844	Capscrew .....	4	50	204223	Boot .....	1
9	.....	Harness-Engine .....	1	51	273338	Sealant .....	AR
		☞ Figure 127		52	136687	Nut .....	2
10	1330293	Fuse Holder .....	5	53	1375844	Relay (60 Amp) .....	1
11	1339444	Clip .....	4	54	1320669	Fuse (30 Amp) .....	1
12	1339461	Label .....	1	55	1367640	Label .....	1
13	1339459	Label .....	1	56	1314387	MAP Sensor .....	1
14	1352178	Label .....	1	57	.....	Starter .....	1
15	1354373	Label .....	1			☞ Figure 151	
16	370647	Fuse (10 Amp) .....	4	58	1375135	Bracket .....	1
17	1330301	Relay (Fuel Pump) .....	1	59	1375157	Capscrew .....	1
18	302246	Screw .....	6	60	1375158	Capscrew .....	1
19	320155	Washer .....	4	61	309124	Link .....	2
20	292679	Lockwasher .....	11	62	122175	Clamp .....	1
21	292668	Nut .....	11	63	119388	Battery Cable (+) .....	1
22	101625	Clamp .....	2	64	1379481	Battery Cable (-) .....	1
23	1376661	Clip .....	1	65	1314392	Wire Assembly .....	1
24	.....	Harness-Cluster .....	1	66	320157	Washer .....	1
		☞ Figure 108		67	1354379	Battery Hold Down .....	1
25	.....	Harness-Cowl .....	1	68	275496	Conduit .....	AR
		☞ Figure 106		69	1385863	Harness-Starter/Alternator .....	1
26	1375878	Oil Pressure Switch .....	1	70	1347067	Air Filter Sender (Optional) .....	1
27	1376767	Fitting .....	1	71	1383331	Battery (Wet) .....	1
28	292681	Lockwasher .....	4	72	129563	Strap Clamp .....	AR
29	239503	Nut .....	4	73	16836	Capscrew .....	1
30	197067	Washer .....	7	74	1458009	Tray .....	1
31	15152	Lockwasher .....	2	75	1351682	End Cap Connector (Forward/Reverse Lever) .....	1
32	15052	Nut .....	2	76	1351681	End Cap Connector (Forward/Reverse Lever) .....	1
33	18515	Washer .....	2	77	1352066	Harness-Neutral Start (Monotrol Pedal) .....	1
34	15155	Lockwasher .....	2	78	17216	Fitting (Optional) .....	1
35	190383	Boot .....	2	79	16187	Fitting (Optional) .....	1
36	2033592	Capscrew .....	1	80	17314	Fitting (Optional) .....	1
37	1314381	Coolant Sensor .....	1	81	1356108	Oil Pressure Sender (Optional) ..	1
38	.....	Harness-Chassis .....	1	82	18535	Capscrew .....	2
		☞ Figure 121					
39	1356105	Low Coolant Sender .....	1				
40	1319190	Temperature Sender .....	1				
41	1326939	Cap .....	2				

## ELECTRICAL (Figure 115) GM 3.0L LPG FIRST USED ON S/N D177B-35855



**ELECTRICAL**  
**GM 3.0L LPG**  
**FIRST USED ON S/N D177B-35855**

REF	PART NO.	NAME OF PART	QTY	REF	PART NO.	NAME OF PART	QTY
1	1375847	Bracket .....	1	33	1460824	MSTS Controller Assembly .....	1
2	1330293	Fuse Holder .....	2	33	1460764	MSTS Controller .....	1
3	370647	Fuse (10 Amp) .....	1	33	1459037	Label .....	1
4	302246	Screw .....	3	34	292501	Capscrew .....	3
5	320155	Washer .....	2	35	15152	Lockwasher .....	2
6	292679	Lockwasher .....	6	36	15052	Nut .....	2
7	292668	Nut .....	6	37 a	1375135	Bracket .....	1
8	1360146	Clamp .....	2	37 b	1457120	Bracket .....	1
9	136516	Clamp (Without MSTS) .....	1	38	1347067	Air Filter Sender (Optional) .....	1
9	89220	Clamp (With MSTS) .....	1	39	14386	Plug (Without MSTS) .....	1
10	292681	Lockwasher .....	4	39	1314381	Coolant Sensor (With MSTS) ....	1
11	1352612	Label .....	1	40	1383331	Battery (Wet) .....	1
12	190383	Boot .....	2	41	1379481	Battery Cable (-) .....	1
13	204223	Boot .....	1	42	1354379	Battery Hold Down .....	1
14	273338	Sealant .....	AR	43	1385863	Harness-Starter/Alternator .....	1
15	239503	Nut .....	4	44	119388	Battery Cable (+) .....	1
16	320157	Washer .....	1	45	275496	Conduit .....	AR
17	122175	Clamp .....	1	46	309124	Link .....	2
18	1375844	Relay (60 Amp) .....	1	47	18496	Capscrew .....	1
19	1320669	Fuse (30 Amp) .....	1	48	.....	Harness-Cluster .....	1
20	1367640	Label .....	1			☞ Figure 108	
21	325897	Clamp .....	1	49	.....	Harness-Cowl .....	1
22	15156	Lockwasher .....	1			☞ Figure 106	
23	129563	Strap Clamp .....	AR	50	257241	Boot .....	1
24	1314392	Wire Assembly .....	1	51	1326939	Cap .....	2
25	320156	Washer .....	3	52	1458009	Tray .....	1
26	292680	Lockwasher .....	6	53	320158	Washer .....	3
27	136687	Nut .....	6	54 a	.....	Starter .....	1
28	.....	Harness-Chassis .....	1			☞ Figure 151	
		☞ Figure 121		54 b	.....	Starter .....	1
29	1356105	Low Coolant Sender .....	1			☞ Figure 151	
30	302250	Screw (With MSTS) .....	2	55	1375878	Oil Pressure Switch .....	1
30	302245	Screw (Without MSTS) .....	2	56	1376767	Fitting .....	1
31	1314387	MAP Sensor (With MSTS) .....	1	57	1319190	Temperature Sender .....	1
32	.....	Harness-LPG Engine .....		58	16836	Capscrew .....	1
		(With MSTS) .....	1	59	15155	Lockwasher .....	2

CONTINUED ON NEXT PAGE

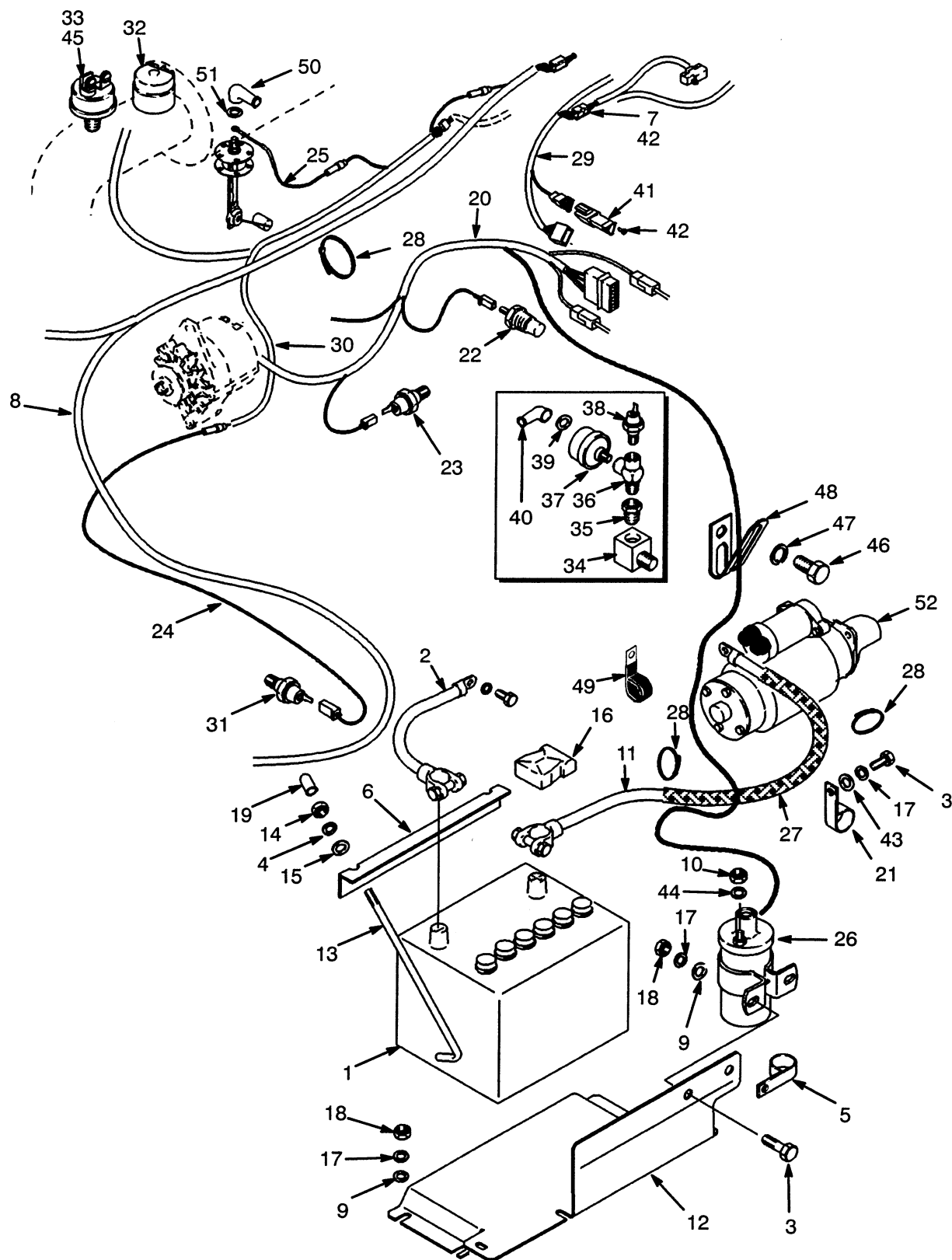


**ELECTRICAL**  
**GM 3.0L LPG**  
**FIRST USED ON S/N D177B-35855**

REF	PART NO.	NAME OF PART	QTY	REF	PART NO.	NAME OF PART	QTY
60	18515	Washer .....	2	72	17314	Fitting (Optional) .....	1
61	1375157	Capscrew .....	1	73	1356108	Oil Pressure Sender (Optional) ..	1
62	1375158	Capscrew .....	1	74	190383	Boot .....	1
63	197067	Washer .....	2	75	197067	Washer .....	1
64	18535	Capscrew .....	1	76	1376655	Bracket .....	1
65	1352066	Harness-Neutral Start (Monotrol Pedal) .....	1	77	320158	Washer .....	3
66	1351133	Pressure Switch .....	1	78	292681	Lockwasher .....	3
67	190383	Boot .....	1	79	239503	Nut .....	3
68	1351682	End Cap Connector (Forward/Reverse Lever) .....	1	80	1375848	Spacer .....	3
69	1351681	End Cap Connector (Forward/Reverse Lever) .....	1	81	197067	Washer .....	3
70	17216	Fitting (Optional) .....	1	82	275498	Conduit .....	1
71	16187	Fitting (Optional) .....	1	83	114312	Strap Clamp .....	AR
				a	Last Used On S/N Pending Per ECN 72863		
				b	First Used On S/N Pending Per ECN 72863		

[illegible]

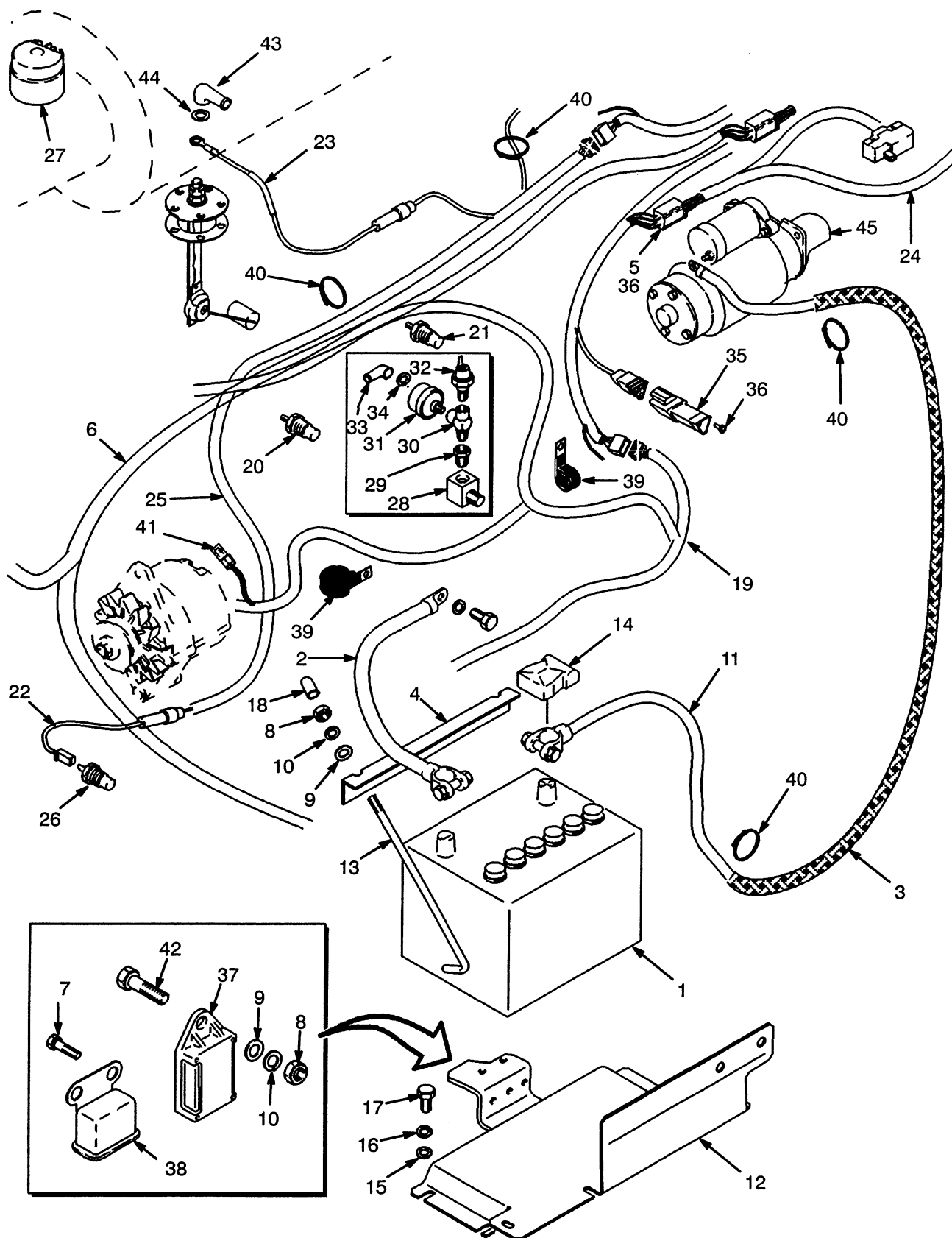
## ELECTRICAL (Figure 116) GASOLINE AND LPG 2.0L



**ELECTRICAL**  
**GASOLINE AND LPG 2.0L**

REF	PART NO.	NAME OF PART	QTY	REF	PART NO.	NAME OF PART	QTY
1	ak	309153 Wet Battery .....	1	30	n	..... Chassis Harness .....	1
1	m	1383331 Wet Battery .....	1			☞ Figure 120	
1	a	177894 Dry Battery .....	1	30	p	..... Chassis Harness .....	1
2		153931 Battery Cable .....	1			☞ Figure 121	
3	d	136681 Capscrew .....	4	31		1356105 Low Coolant Sender .....	1
3	e	136681 Capscrew .....	2	32		1347067 Air Filter Sender .....	1
4		292680 Washer .....	2	33	g	1351133 Low Pressure Switch .....	1
5	d	1310611 Clamp .....	1	34	a	16151 Fitting .....	1
6		1354379 Battery Bracket .....	1	35	a	367224 Adapter .....	1
7	hp	1351681 Connector Body .....	1	36	a	16186 Fitting .....	1
7	hn	1330409 Connector Body .....	1	37	a	1356108 Oil Pressure Sender .....	1
8	n	1359624 Harness-Chassis Lighting .....	1	38	a	1368983 Oil Pressure Switch .....	1
9		320158 Washer .....	3	39	a	18500 Washer .....	1
10		292668 Nut .....	2	40	a	190383 Boot .....	1
11		1450104 Battery Cable .....	1	41	hp	1351682 Connector Body .....	1
12		1458009 Battery Tray .....	1	41	hn	1330410 Connector Body .....	1
13		309124 Battery Holddown Link .....	2	42	hn	1330439 Cavity Plug .....	5
14		136687 Nut .....	2	43	d	296418 Washer .....	2
15		18500 Washer .....	2	44		292679 Washer .....	2
16		257241 Boot .....	1	45		190383 Boot .....	2
17	d	292681 Washer .....	7	46	s	148962 Capscrew .....	2
17	e	292681 Washer .....	5	47	e	18500 Washer .....	1
18		239503 Nut .....	5	48	s	2022013 Clamp .....	3
19		1326939 Cap .....	2	49		1360146 Clamp .....	2
20	b	1352069 Engine Harness .....	1	50		190383 Boot .....	1
20	r	..... Engine Harness .....	1	51		18500 Washer .....	1
		☞ Figure 122		52		..... Starter Motor .....	1
20	p	..... Engine Harness .....	1			☞ Figure 149	
		☞ Figure 123		a		Optional	
21	d	176910 Clamp .....	2	b		Last Used On S/N D177B-15834	
21	e	128408 Clamp .....	1	c		First Used On S/N D177B-15835	
22		1360086 Oil Pressure Switch .....	1	d		Last Used On S/N D177B-6401	
22	a	2026608 Oil Pressure Switch .....	1	e		First Used On S/N D177B-6402	
23	b	1361140 Temperature Sender .....	1	f		Monotrol Pedal	
23	c	1367633 Temperature Sender .....	1	g		LPG	
24	n	1354202 Coolant Level Harness .....	1	h		Forward/Reverse Lever	
25		1356131 Fuel Probe Harness (Gas) .....	1	k		Last Used On S/N D177B-22587	
26		1324278 Ignition Coil .....	1	n		Last Used On S/N D177B-35854	
27	d	275496 Conduit (22.5 in) .....	1	p		First Used On S/N D177B-35855	
27	e	275496 Conduit (51 in) .....	1	r		Used On S/N D177B-15835 Thru D117B-35854	
28		273775 Strap Clamp .....	AR	s		Used On S/N D177B-6402 Thru D177B-35854	
29	f	1352066 Neutral Start Harness .....	1				

## ELECTRICAL (Figure 117) DIESEL

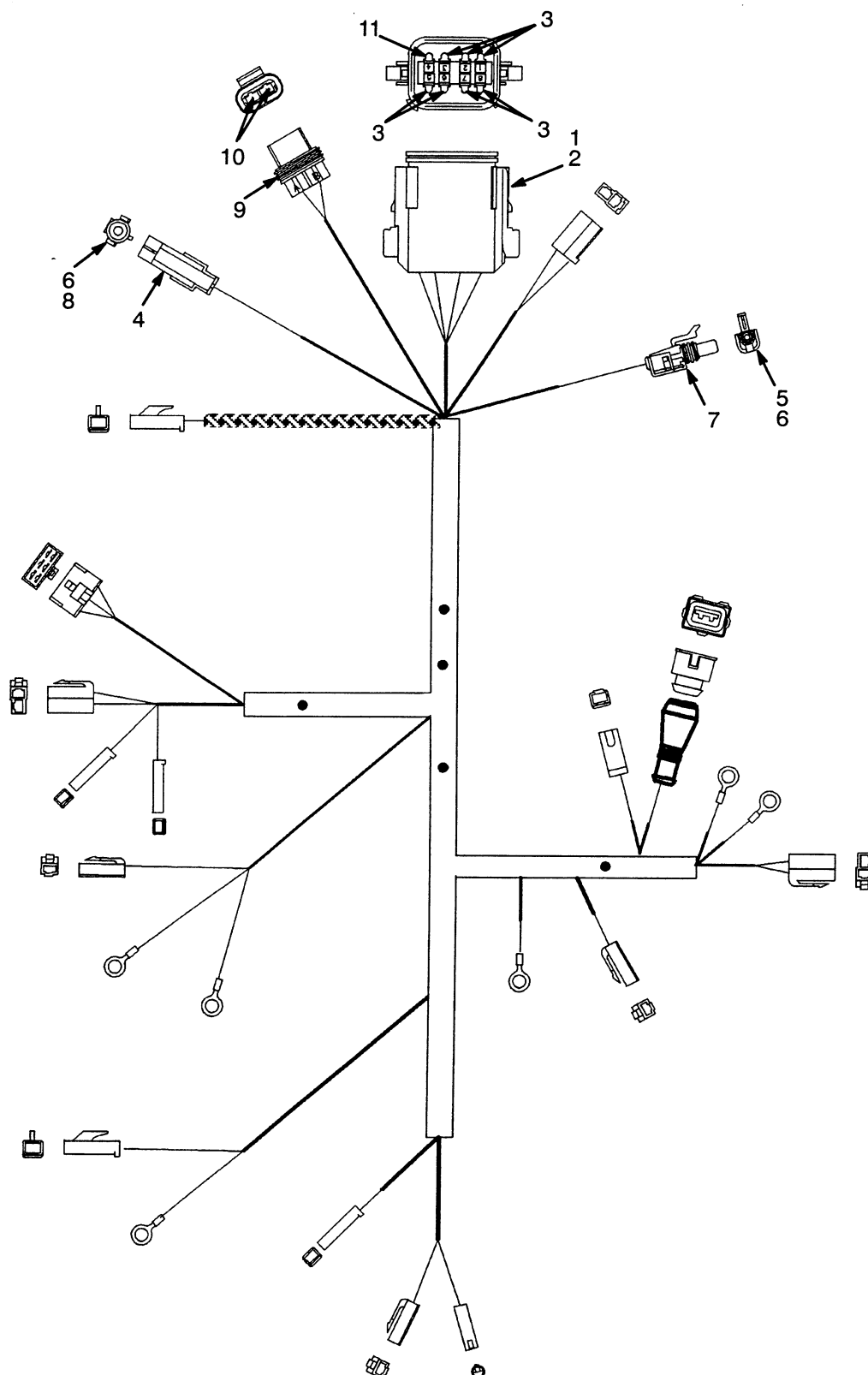


**ELECTRICAL**  
**DIESEL**

**KEY:**  
**A:** 2.4L  
**B:** 2.8L  
**C:** 3.1L

REF	PART NO.	NAME OF PART	QTY			REF	PART NO.	NAME OF PART	QTY		
			A	B	C				A	B	C
1	a	1377998 Wet Battery .....	1	1	1			Figure 121			
2		153931 Battery Cable .....	1	1	1	26	1356105	Low Coolant Sender .....	1	1	1
3		275496 Conduit .....	AR	AR	AR	27	1347067	Air Filter Restricted Sender .	1	1	1
4		1354379 Battery Hold Down .....	1	1	1	28	a	324740 Connector .....	1	1	1
5	ce	1351681 Connector Body .....	1	1	1	29	a	367224 Adapter .....	1	1	1
5	cd	1330409 Connector Body .....	1	1	1	30	a	16186 Fitting .....	1	1	1
6	d	1359624 Harness-Chassis Lighting .	1	1	1	31	a	1356108 Oil Pressure Sender .....	1	1	1
7		292501 Capscrew .....	3	3	3	32	a	366687 Oil Pressure Switch .....	1	1	1
8		136687 Nut .....	5	5	5	33	a	190383 Boot .....	1	1	1
9		320156 Washer .....	3	3	3	34		18500 Washer .....	2	2	2
10		292680 Washer .....	5	5	5	35	ce	1351682 Connector Body .....	1	1	1
11		153932 Battery Cable .....	1	1	1	35	cd	1330410 Connector Body .....	1	1	1
12		1458009 Battery Tray .....	1	1	1	36	cd	1330439 Cavity Plug .....	5	5	5
13		309124 Battery Holddown Link .....	2	2	2	37		1347121 Relay Timer .....	1	..	1
14		257241 Boot .....	1	1	1	37		1350200 Relay Timer .....	1	..	1
15		320158 Washer .....	3	3	3	38		1347122 Glow Plug Relay .....	1	1	1
16		292681 Washer .....	3	3	3	39		1360146 Clamp .....	3	2	2
17		239503 Nut .....	3	3	3	40		273775 Strap Clamp .....	AR	AR	AR
18		1326939 Cap .....	2	2	2	41		1361305 Diode .....	1	1	1
19	d	..... Engine Harness .....	1	1	1	42		287816 Capscrew .....	1	1	1
		Figure 118				43		190383 Boot .....	1	1	1
19	e	..... Engine Harness .....	1	1	1	44		18500 Washer .....	1	1	1
		Figure 119				45		..... Starter Motor .....	1	1	1
20		1320939 Water Temperature Sender .	1	1	1			Figure 149			
21		1360086 Oil Pressure Switch .....	1	1	1	a	Optional				
21		2026608 Oil Pressure Switch .....	1	1	1	b	Monotrol Pedal				
22	d	1354201 Low Coolant Harness .....	1	1	1	c	Forward/Reverse Lever				
23		1356131 Fuel Probe Harness .....	1	1	1	d	Last Used On S/N D177B-35854				
24	b	1352066 Neutral Start Harness .....	1	1	1	e	First Used On S/N D177B-35855				
25	d	..... Chassis Harness .....	1	1	1						
		Figure 120									
25	e	..... Chassis Harness .....	1	1	1						

## HARNESS (Figure 118) DIESEL LAST USED ON S/N D177B-35854

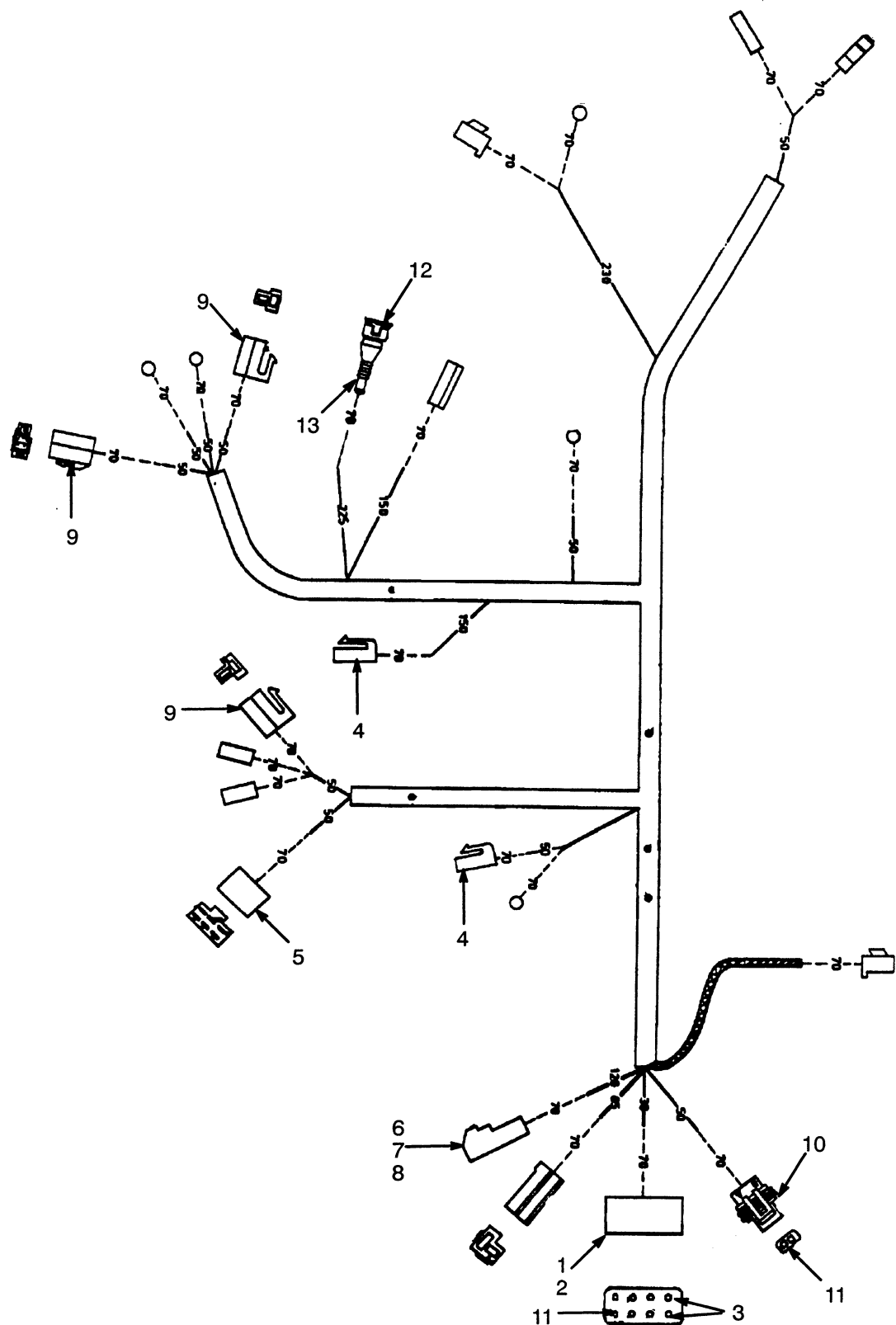


**HARNESS**  
**DIESEL**  
**LAST USED ON S/N D177B-35854**

REF	PART NO.	NAME OF PART	QTY	REF	PART NO.	NAME OF PART	QTY
	1352558	Engine Harness .....	1	6	1329147	Seal .....	2
1	1330423	Connector Body .....	1	7	1330298	Connector Body (Starter) .....	1
2	1330429	Lock .....	1	8	1336173	Socket .....	1
3	1330438	Socket .....	7	9	1329152	Connector Body .....	1
4	1330299	Connector Body .....	1	10	1329148	Terminal .....	2
5	1334999	Pin .....	1	11	1330439	Plug .....	1



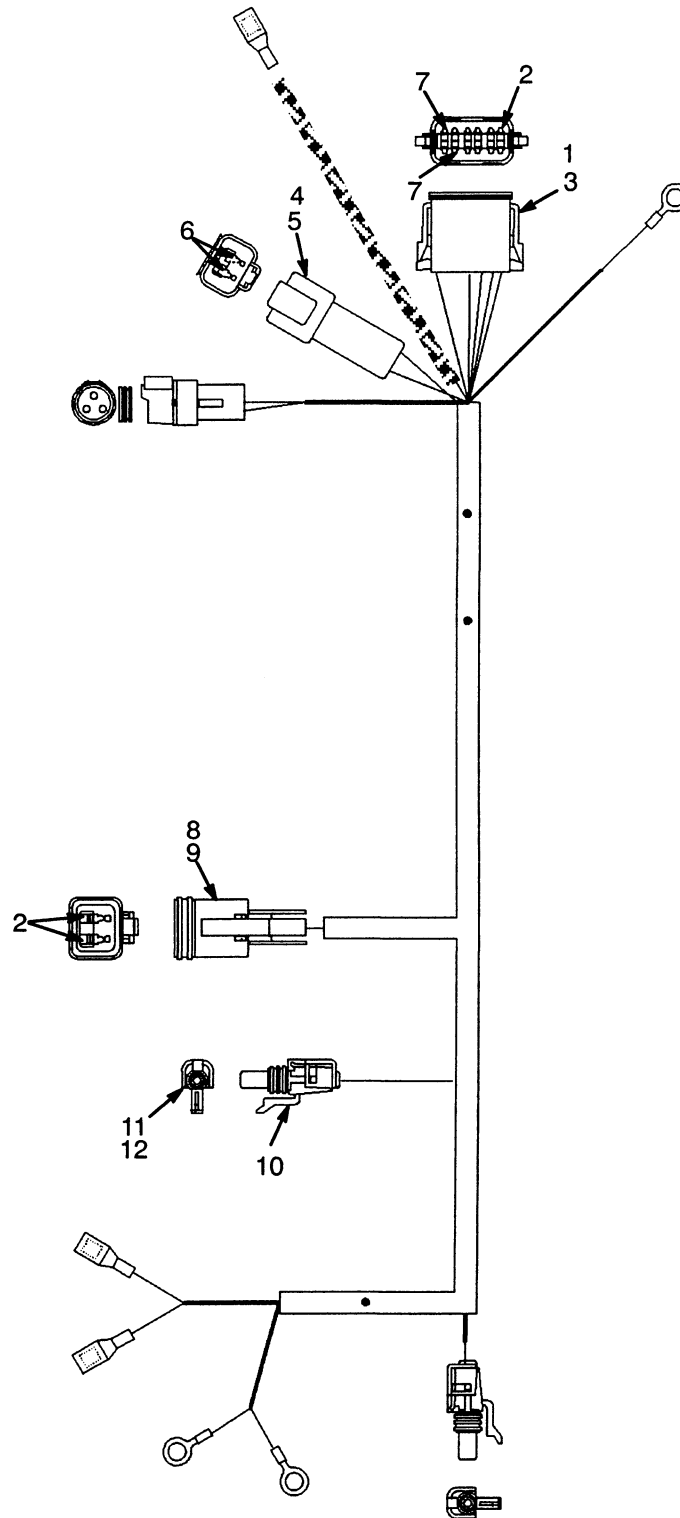
## HARNESS (Figure 119) DIESEL FIRST USED ON S/N D177B-35855



**HARNESS**  
**DIESEL**  
**FIRST USED ON S/N D177B-35855**

REF	PART NO.	NAME OF PART	QTY	REF	PART NO.	NAME OF PART	QTY
	1385859	Engine Harness .....	1	7	1334999	Pin .....	1
1	1330423	Connector Body .....	1	8	1329147	Seal .....	1
2	1330429	Lock .....	1	9	1308259	Connector Body .....	3
3	1330438	Socket .....	7	10	1330292	Connector Body .....	1
4	1324311	Connector Body .....	2	11	1330439	Plug .....	2
5	314766	Connector Body .....	1	12	1354382	Connector Body .....	1
6	1330298	Connector Body .....	1	13	1354383	Boot .....	1

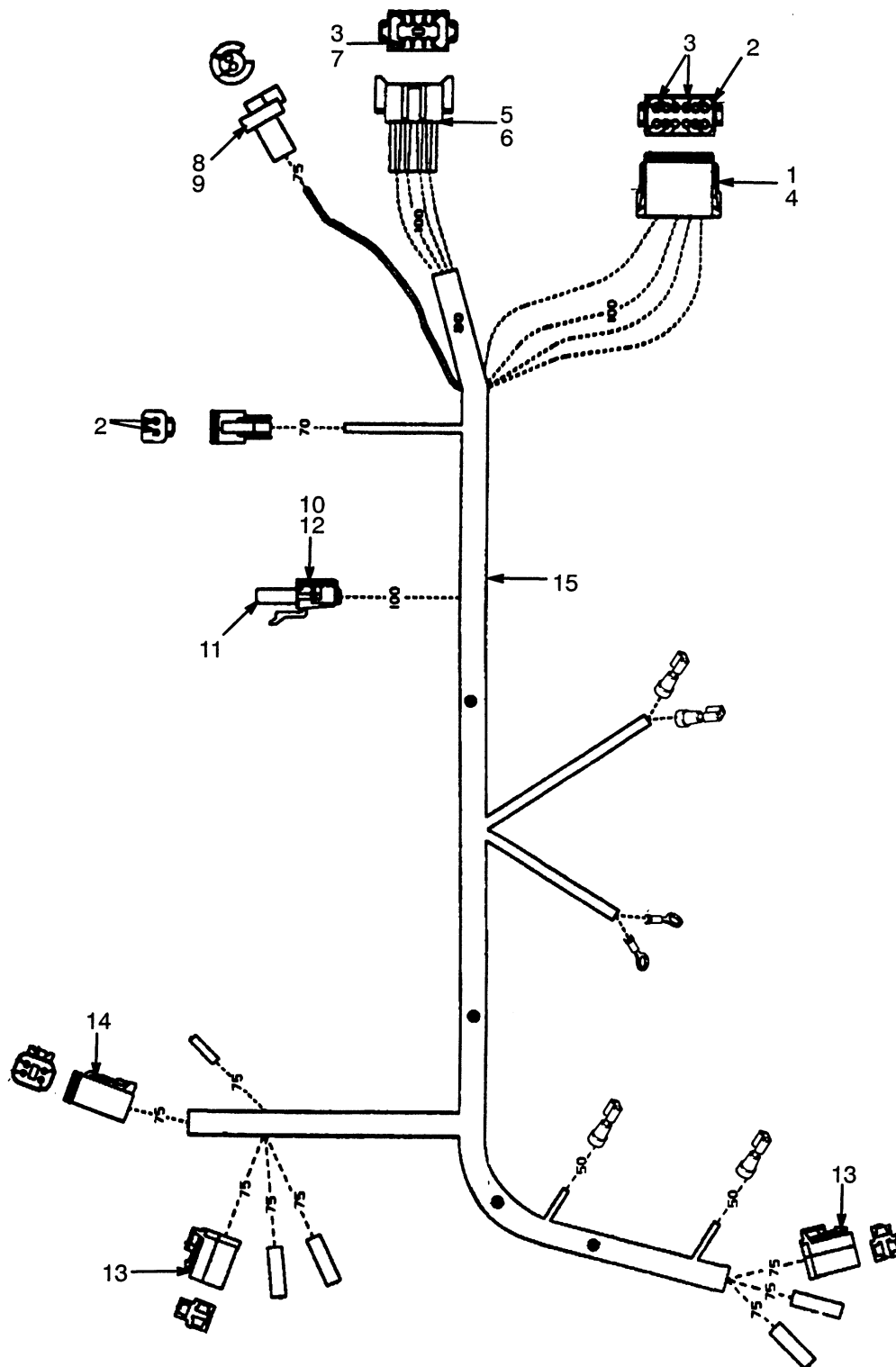
## HARNESS (Figure 120) CHASSIS LAST USED ON S/N D177B-35854



**HARNESS**  
**CHASSIS**  
**LAST USED ON S/N D177B-35854**

REF	PART NO.	NAME OF PART	QTY	REF	PART NO.	NAME OF PART	QTY
	1351083	Chassis Harness .....	1	6	1330437	Pin .....	2
1	1351068	Connector Body (Cluster Harness) .....	1	7	1330439	Plug .....	2
2	1330438	Socket .....	12	8	1330419	Connector Body (Seat Switch) ..	1
3	1351069	Lock .....	1	9	1330424	Lock .....	1
4	1330409	Connector Body (Turn Signal) ..	1	10	1330299	Connector Body .....	2
5	1330414	Lock .....	1	11	1323583	Socket .....	2
				12	1323579	Seal .....	2

## HARNESS (Figure 121) CHASSIS FIRST USED ON S/N D177B-35855



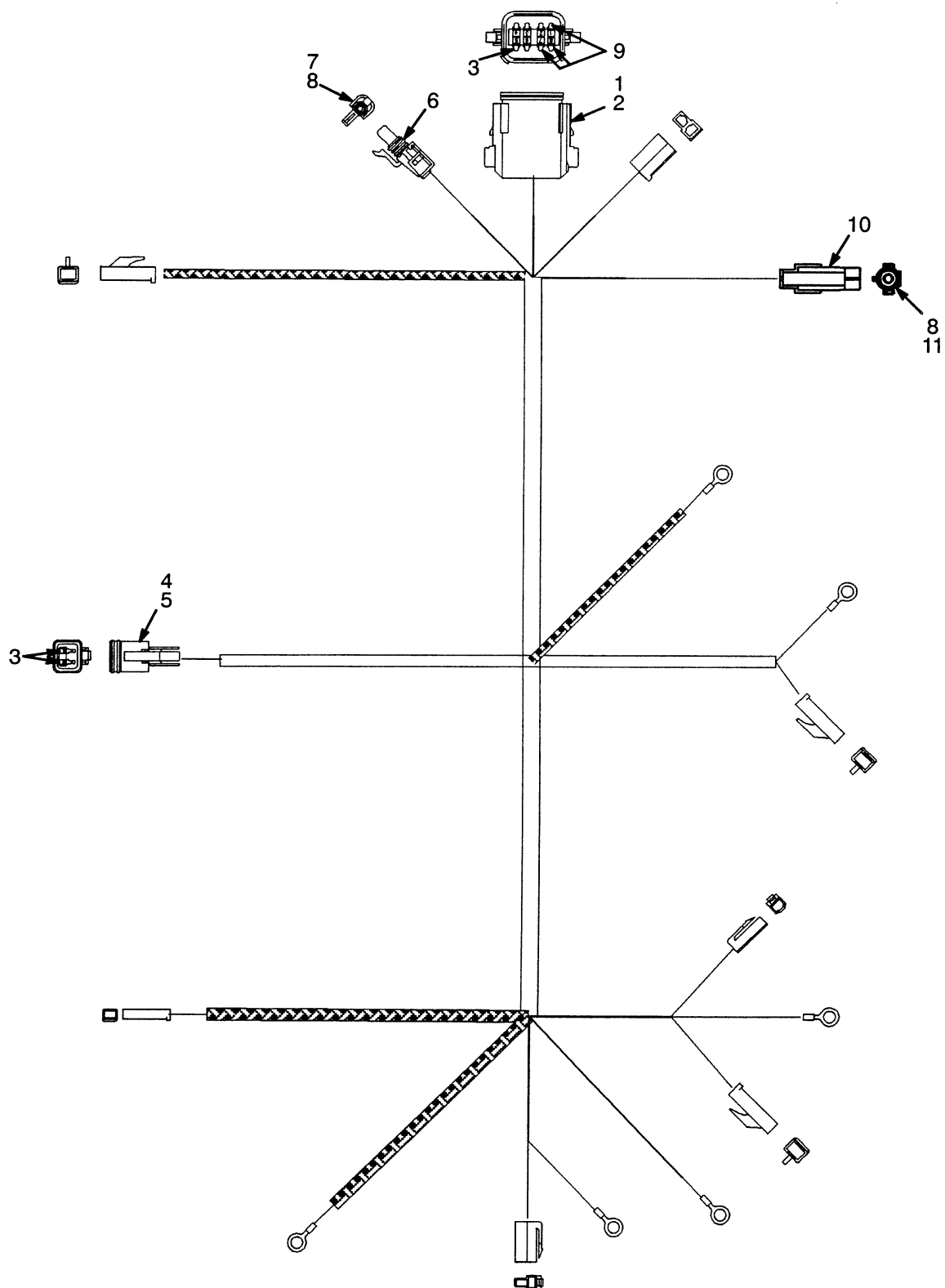
**HARNESS**  
**CHASSIS**  
**FIRST USED ON S/N D177B-35855**

REF	PART NO.	NAME OF PART	QTY	REF	PART NO.	NAME OF PART	QTY
	1376747	Chassis Harness .....	1	8	1351070	Connector Body .....	1
1	1351068	Connector Body .....	1	9	1351076	Seal .....	1
2	1330438	Socket .....	11	10	1330299	Connector Body .....	1
3	1330439	Plug .....	8	11	1323583	Socket .....	1
4	1351069	Lock .....	1	12	1323579	Seal .....	1
5	1330413	Connector Body .....	1	13	1351099	Connector Body .....	2
6	1330418	Lock .....	1	14	1330421	Connector Body .....	1
7	1330437	Pin .....	7	15	275498	Conduit .....	1

## HARNESS (Figure 122)

### GASOLINE AND LPG 2.0L

LAST USED ON S/N D177B-35854

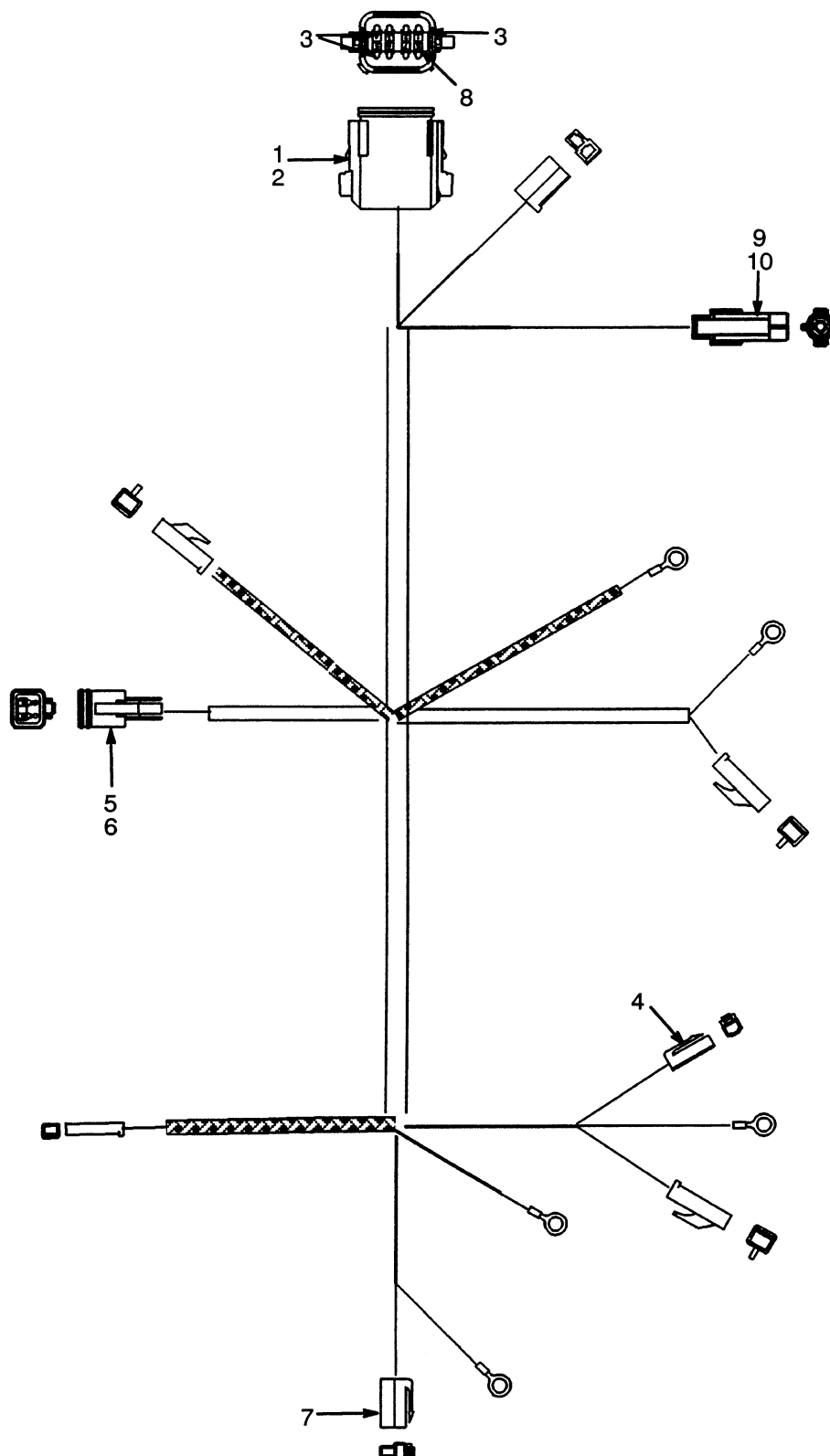


**HARNESS**  
**GASOLINE AND LPG 2.0L**  
**LAST USED ON S/N D177B-35854**

REF	PART NO.	NAME OF PART	QTY	REF	PART NO.	NAME OF PART	QTY
a	1352069	Engine Harness .....	1	7	1336173	Socket .....	1
b	1379454	Engine Harness .....	1	8	1329147	Seal .....	2
1	1330423	Connector Body .....	1	9	1330439	Plug .....	3
2	1330429	Lock .....	1	10	1330298	Connector Body .....	1
3	1330438	Socket .....	5	11	1334999	Pin .....	1
4	1330419	Connector Body (LPG Harness)	1				
5	1330424	Lock .....	1	a	Last Used On S/N D177B-15834		
6	1330299	Connector Body (Light Harness)	1	b	First Used On S/N D177B-15835		



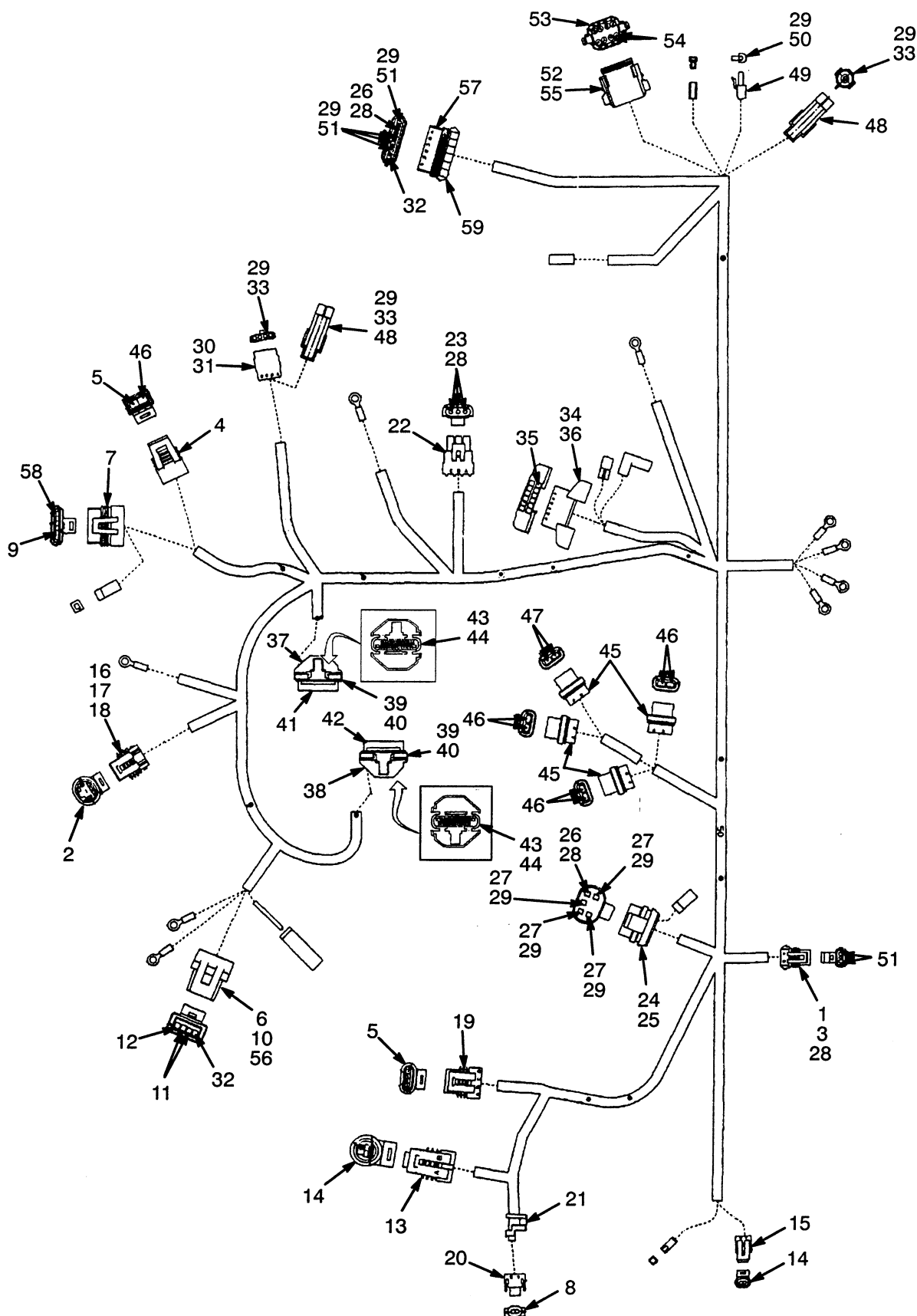
## HARNESS (Figure 123) GASOLINE AND LPG 2.0L FIRST USED ON S/N D177B-35855



**HARNESS**  
**GASOLINE AND LPG 2.0L**  
**FIRST USED ON S/N D177B-35855**

REF	PART NO.	NAME OF PART	QTY	REF	PART NO.	NAME OF PART	QTY
	1385862	Engine Harness .....	1	6	1330424	Lock .....	1
1	1330423	Connector Body .....	1	7	1308259	Connector Body .....	1
2	1330428	Lock .....	1	8	1330439	Plug .....	3
3	1330438	Socket .....	5	9	1330298	Connector Body .....	1
4	1324311	Connector Body .....	1	10	1334999	Pin .....	1
5	1330419	Connector Body .....	1				

## ENGINE HARNESS (Figure 124) GASOLINE 2.2L

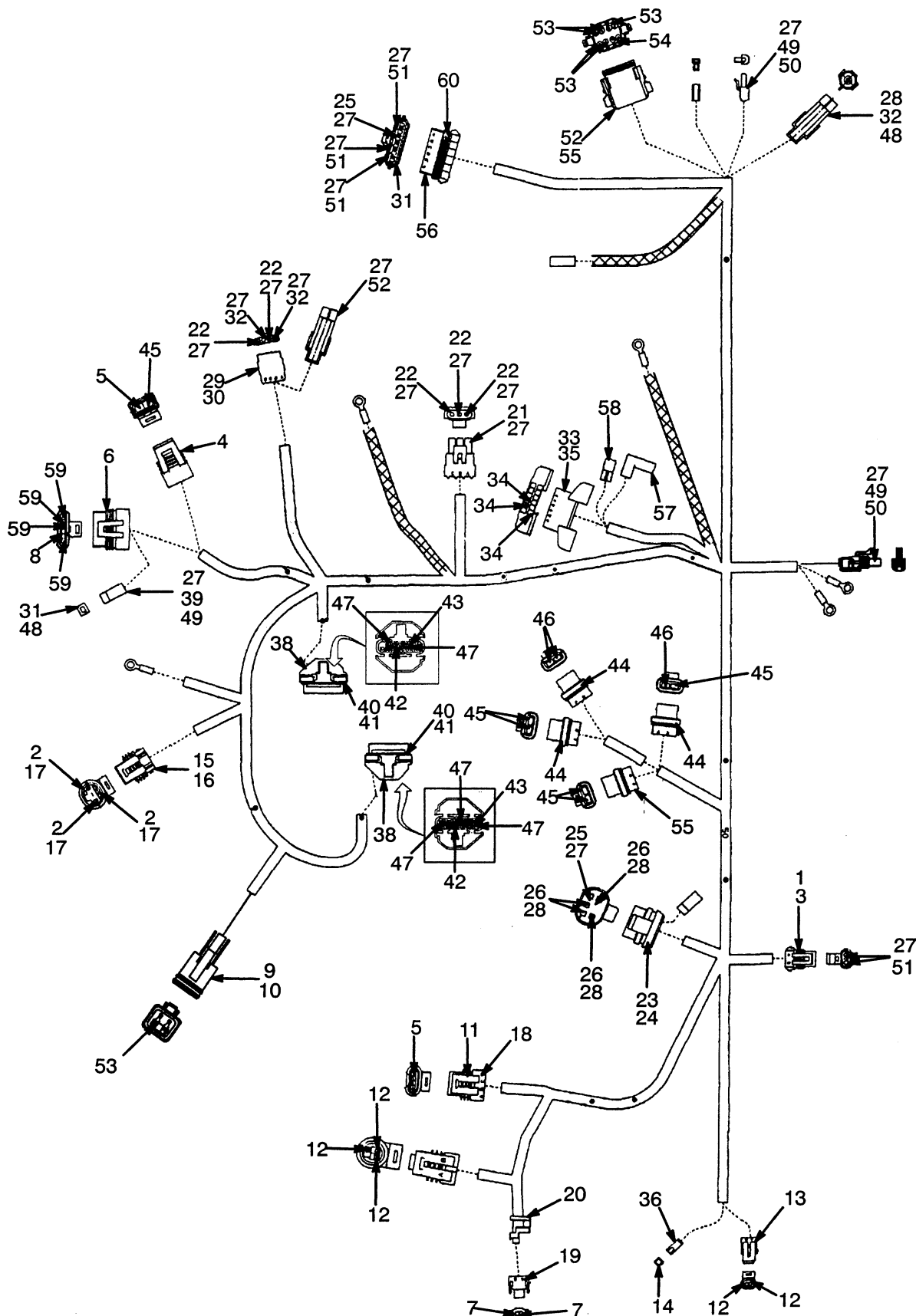


**ENGINE HARNESS**

**GASOLINE 2.2L**

REF	PART NO.	NAME OF PART	QTY	REF	PART NO.	NAME OF PART	QTY
a	1352145	Engine Harness .....	1	31	1334998	Connector	
b	1373813	Engine Harness .....	1			(Fuel Pump & Sender) .....	1
1	1329152	Connector .....	1	32	1327164	Plug .....	2
2	1330355	Terminal .....	3	33	1334999	Pin .....	5
3	1329151	Lock .....	1	34	1327956	Plug .....	1
4	1347205	Connector (Distributor) .....	1	35	1330279	Terminal .....	2
5	1323576	Terminal .....	5	36	1330294	Lock .....	1
6	1347209	Seal .....	1	37	1350218	Relief (LH) .....	1
7	1347204	Connector (Distributor) .....	1	38	1350219	Relief (RH) .....	1
8	1330296	Terminal .....	2	39	1350220	Connector .....	2
9	1323581	Plug .....	1	40	1350221	Seal .....	2
10	1347206	Connector (Alternator) .....	1	41	1350222	Terminal Cap (Clear) .....	1
11	1363885	Terminal .....	2	42	1350223	Terminal Cap (Black) .....	1
12	1351139	Plug .....	2	43	1352104	Terminal .....	28
13	1327957	Connector .....	1	44	1352105	Plug .....	36
14	1354237	Terminal .....	5	45	1330292	Plug .....	4
15	1323586	Connector		46	1330283	Terminal .....	6
		(ECM Temperature Sender .....	1	47	1354204	Terminal .....	3
16	1347210	Connector (Oil Pressure Switch) .....	1	48	1330298	Connector .....	2
17	1330357	Lock .....	1	49	1330299	Connector (Light Harness) .....	1
18	1330356	Seal .....	3	50	1336173	Socket .....	1
19	1323575	Connector (IAC Valve) .....	1	51	1329148	Terminal .....	6
20	1327960	Connector (Injector) .....	1	52	1330423	Connector (Cluster Harness) ...	1
21	1356501	Grommet .....	1	53	1330434	Socket .....	6
22	1327958	Connector (MAP Sensor) .....	1	54	1330439	Plug .....	2
23	1323578	Terminal .....	3	55	1330429	Lock .....	1
24	1330302	Plug .....	1	56	1347208	Lock .....	1
25	1330303	Lock .....	1	57	1327959	Plug (Governor Module) .....	1
26	1330281	Terminal .....	3	58	1352142	Terminal .....	5
27	1330304	Terminal .....	3	59	1330297	Lock .....	1
28	1323579	Seal .....	8				
29	1329147	Seal .....	12	a	Last Used On S/N D177B-6045		
30	1337789	Lock .....	1	b	First Used On S/N D177B-6046		

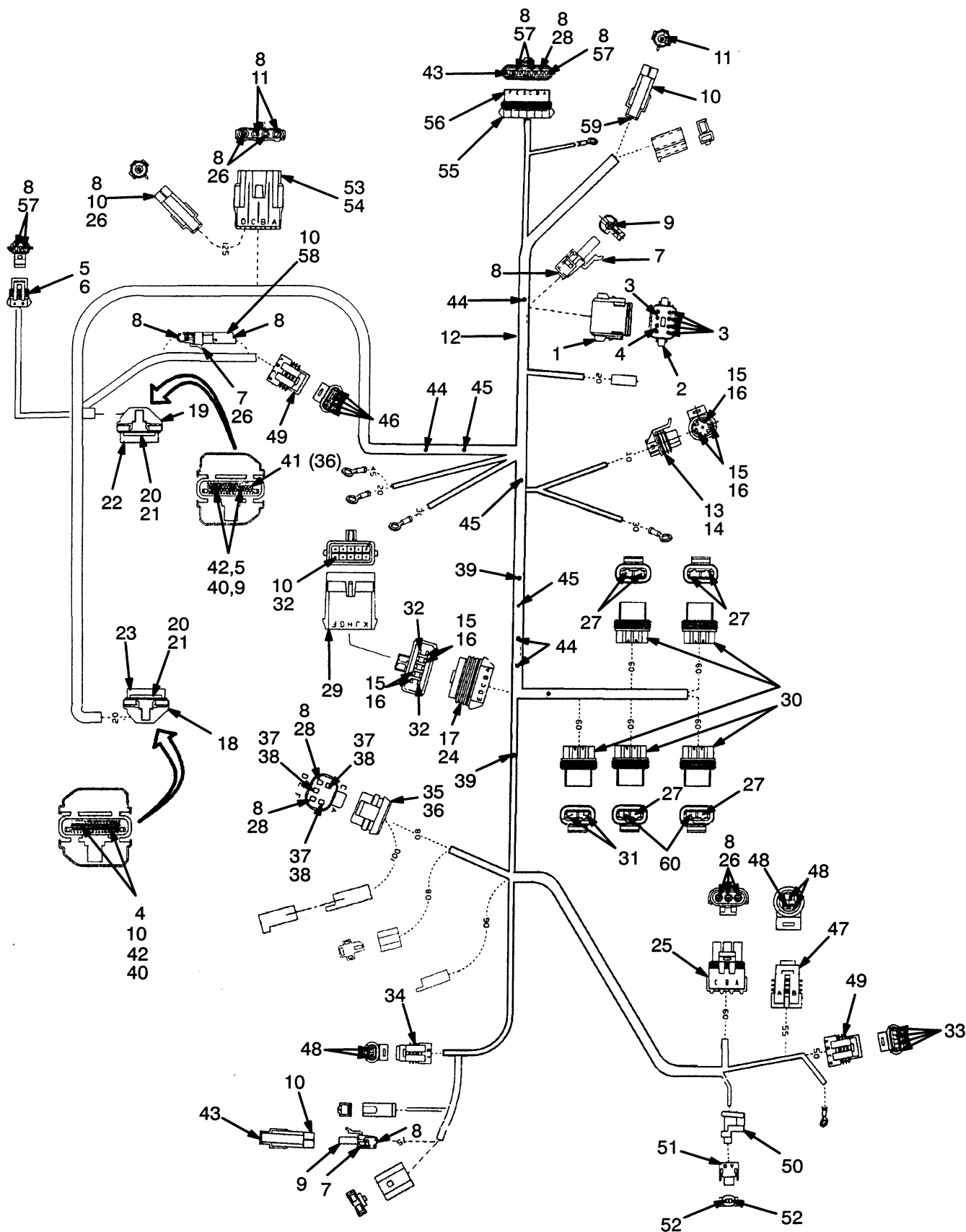
## TYPE GS HARNESS (Figure 125) GASOLINE 2.2L



**TYPE GS HARNESS**  
**GASOLINE 2.2L**

REF	PART NO.	NAME OF PART	QTY	REF	PART NO.	NAME OF PART	QTY
a	1368929	Safety Harness .....	1	31	1327164	Plug .....	2
b	1373814	Safety Harness .....	1	32	1334999	Pin .....	4
1	1329152	Connector (Governor Motor) ...	1	33	1327956	Plug .....	1
2	1330355	Terminal .....	3	34	1330279	Terminal .....	3
3	1329151	Lock .....	1	35	1330294	Lock .....	2
4	1347205	Connector (Distributor) .....	1	36	1301720	Connector .....	1
5	1323576	Terminal .....	5	37	1337386	Seal .....	3
6	1347204	Connector (Distributor) .....	1	38	1350218	Relief .....	2
7	1330296	Terminal .....	2	39	1323583	Socket .....	1
8	1323581	Seal .....	1	40	1350220	Connector .....	2
9	1330419	Connector (Alternator) .....	1	41	1350221	Seal .....	2
10	1330424	Lock .....	1	42	1352104	Terminal .....	13
11	1327957	Connector .....	1	43	1352105	Seal .....	36
12	1354237	Terminal .....	5	44	1330292	Connector .....	2
13	1323586	Connector (ECM Temperature Sender) ....	1	45	1330283	Terminal .....	6
14	370730	Fitting .....	1	46	1354204	Fitting .....	3
15	1347210	Connector (Oil Pressure Switch)	1	47	1368073	Terminal .....	15
16	1330357	Lock .....	1	48	1330298	Fitting .....	3
17	1330356	Seal .....	3	49	1330299	Fitting .....	3
18	1323575	Connector (IAC Valve) .....	1	50	1336173	Socket .....	2
19	1327960	Connector (Injector) .....	1	51	1329148	Fitting .....	6
20	1356501	Grommet .....	1	52	1330423	Connector (Cluster Harness) ...	1
21	1327958	Connector (MAP Sensor) .....	1	53	1330438	Socket .....	6
22	1323578	Terminal .....	5	54	1330439	Plug .....	2
23	1330302	Connector (Fuel Pump Relay) ..	1	55	1330429	Lock .....	1
24	1330303	Lock .....	1	56	1327959	Plug (Governor Module) .....	1
25	1330281	Terminal .....	3	57	1339448	Fitting .....	1
26	1330304	Terminal .....	3	58	1339447	Fitting .....	1
27	1323579	Seal .....	20	59	1352142	Fitting .....	5
28	1329147	Seal .....	1	60	1330297	Fitting .....	1
29	1337789	Lock .....	1				
30	1334998	Connector (Fuel Pump And Sender) .....	1	a	Last Used On S/N D177B-6045		
				b	First Used On S/N D177B-6046		

## ENGINE HARNESS (Figure 126) GASOLINE 3.0L LAST USED ON S/N D177B-35854

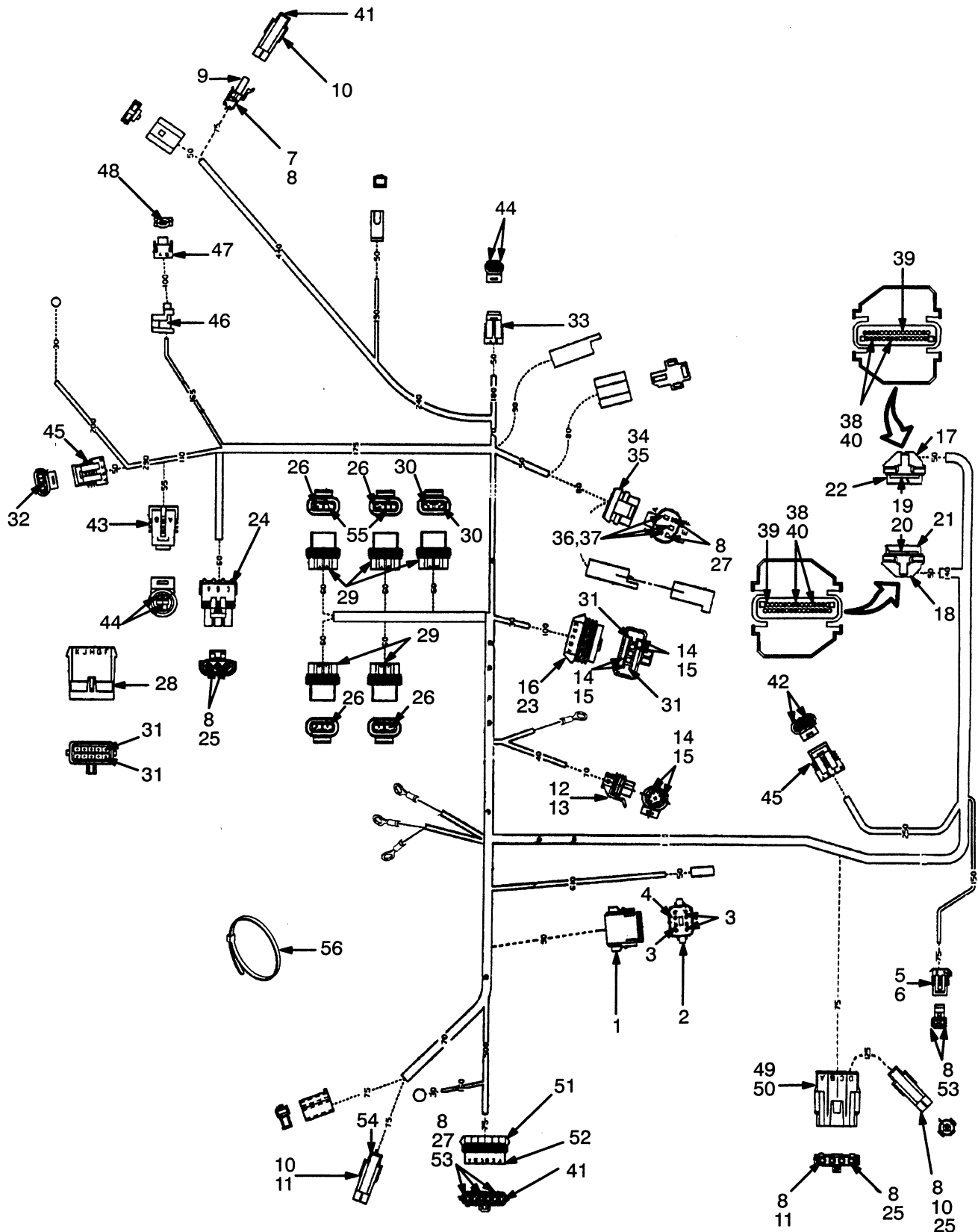


**ENGINE HARNESS**  
**GASOLINE 3.0L**  
**LAST USED ON S/N D177B-35854**

REF	PART NO.	NAME OF PART	QTY	REF	PART NO.	NAME OF PART	QTY
	1378413	Engine Harness .....	1	32	1351139	Plug .....	16
1	1330423	Connector (Cluster Harness) ...	1	33	1330296	Terminal .....	4
2	1330429	Lock .....	1	34	1323586	Connector	
3	1330438	Socket .....	6			(Temperature Sender)	
4	1330439	Plug .....	2			(MSTS Controller) .....	1
5	1329152	Connector (Governor Motor) ...	1	35	1330302	Connector (Fuel Pump Relay) ..	1
6	1329151	Lock .....	2	36	1330303	Lock .....	1
7	1330299	Connector .....	3	37	1330304	Terminal .....	3
8	1323579	Seal .....	21	38	1337386	Seal .....	3
9	1336173	Socket .....	2	39	1345027	Splice .....	2
10	1330298	Connector .....	4	40	1352104	Terminal .....	13
11	1334999	Pin .....	3	41	1352105	Seal .....	36
12	381919	Conduit .....	AR	42	1368073	Terminal .....	15
13	1347210	Connector (Oil Pressure Switch) 1		43	1327164	Plug .....	2
14	1330357	Lock .....	1	44	1345029	Splice .....	5
15	1330355	Terminal .....	7	45	1345026	Splice .....	3
16	1330356	Seal .....	7	46	1352142	Terminal .....	4
17	1376617	Connector		47	1327957	Connector	
		(Diagnostic Handset) .....	1			(Throttle Position Sensor) .....	1
18	1350218	Strain Relief (LH) .....	1	48	1354237	Terminal .....	5
19	1350219	Strain Relief (RH) .....	1	49	1323575	Connector .....	2
20	1350220	Connector .....	2	50	1356501	Grommet .....	1
21	1350221	Seal .....	2	51	1327960	Connector (Injector) .....	1
22	1350222	Terminal Cap (Clear) .....	1	52	1330296	Terminal .....	2
23	1350223	Terminal Cap (Black) .....	1	53	1337789	Lock .....	1
24	1376619	Lock .....	1	54	1334998	Connector	
25	1327958	Connector (MAP Sensor) .....	1			(Fuel Pump & Sender) .....	1
26	1323578	Pin .....	7	55	1330297	Lock .....	1
27	1330283	Terminal .....	6	56	1327959	Connector (Governor Module) ..	1
28	1330281	Terminal .....	3	57	1329148	Terminal .....	5
29	1376618	Receptacle .....	1	58	1323583	Socket .....	1
30	1330292	Connector (Plug) .....	5	59	1329147	Seal .....	1
31	1336171	Terminal .....	2	60	1354204	Terminal .....	2



## ENGINE HARNESS (Figure 127) GASOLINE 3.0L FIRST USED ON S/N D177B-35855

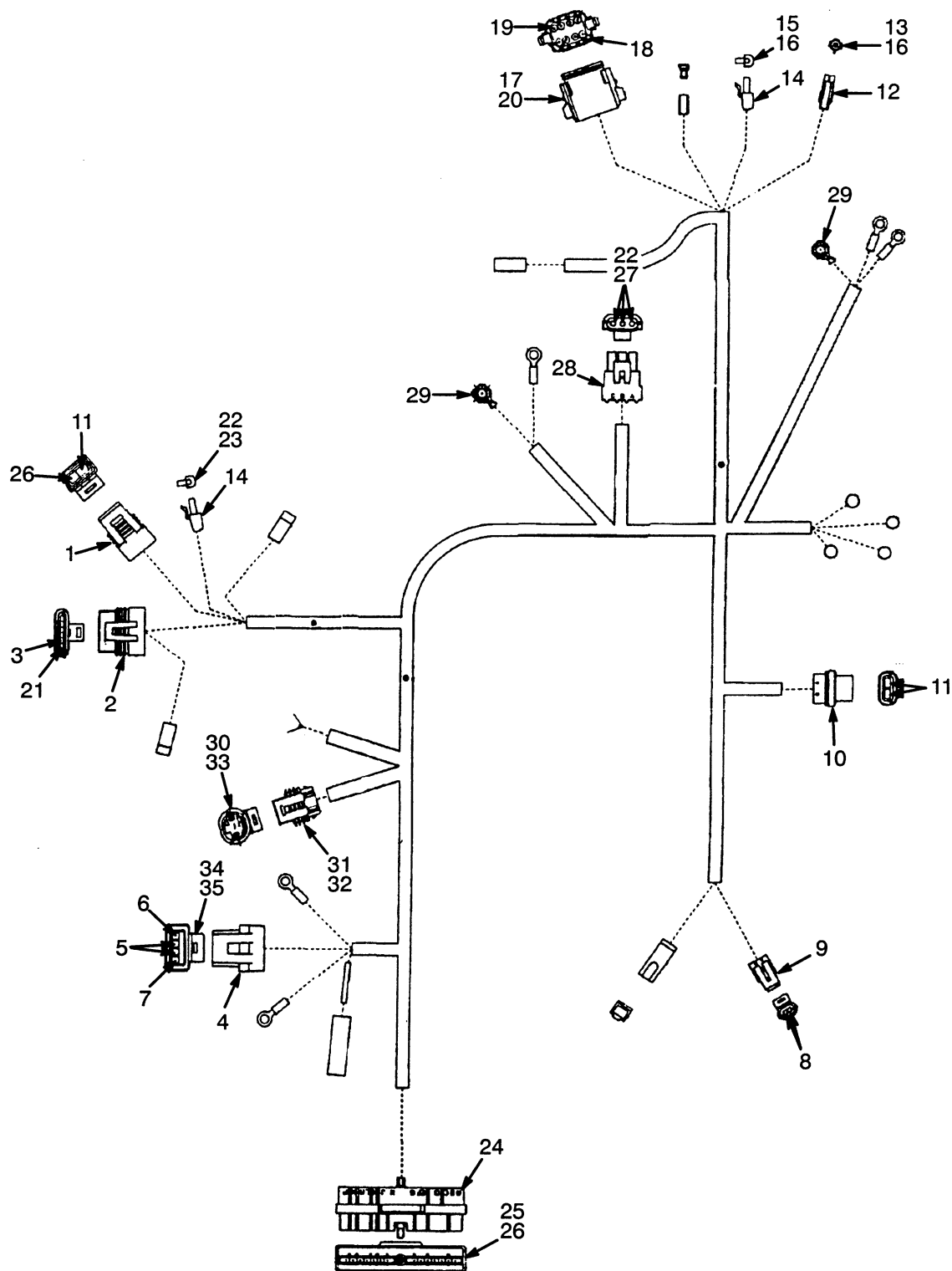


**ENGINE HARNESS**  
**GASOLINE 3.0L**  
**FIRST USED ON S/N D177B-35855**

REF	PART NO.	NAME OF PART	QTY	REF	PART NO.	NAME OF PART	QTY
	1385860	Engine Harness .....	1	29	1330292	Connector .....	5
1	1330423	Connector .....	1	30	1336171	Terminal .....	2
2	1330429	Lock .....	1	31	1351139	Plug .....	16
3	1330438	Socket .....	6	32	1330296	Terminal .....	4
4	1330439	Plug .....	2	33	1323586	Connector .....	1
5	1329152	Connector .....	1	34	1330302	Connector .....	1
6	1329151	Lock .....	2	35	1330303	Lock .....	1
7	1330299	Connector .....	1	36	1330304	Terminal .....	3
8	1323579	Seal .....	18	37	1337386	Seal .....	3
9	1336173	Socket .....	1	38	1352104	Terminal .....	13
10	1330298	Connector .....	3	39	1352105	Plug .....	36
11	1334999	Pin .....	3	40	1368073	Terminal .....	15
12	1347210	Connector .....	1	41	1327164	Plug .....	2
13	1330357	Lock .....	1	42	1352142	Terminal .....	4
14	1330355	Terminal .....	7	43	1327957	Connector .....	1
15	1330356	Seal .....	7	44	1354237	Terminal .....	5
16	1376617	Connector .....	1	45	1323575	Connector .....	2
17	1350218	Strain Relief (LH) .....	1	46	1356501	Grommet .....	1
18	1350219	Strain Relief (RH) .....	1	47	1327960	Connector .....	1
19	1350220	Connector .....	2	48	1330296	Terminal .....	2
20	1350221	Seal .....	2	49	1337789	Lock .....	1
21	1350222	Terminal Cap (Clear) .....	1	50	1334998	Connector .....	1
22	1350223	Terminal Cap (Black) .....	1	51	1330297	Lock .....	1
23	1376619	Lock .....	1	52	1327959	Connector .....	1
24	1327958	Connector .....	1	53	1329148	Terminal .....	5
25	1323578	Pin .....	6	54	1329147	Seal .....	1
26	1330283	Terminal .....	6	55	1354204	Terminal .....	2
27	1330281	Terminal .....	3	56	114312	Strap Clamp .....	AR
28	1376618	Receptacle (For item 16) .....	1				

## ENGINE HARNESS (Figure 128)

LPG 2.2L



**ENGINE HARNESS**

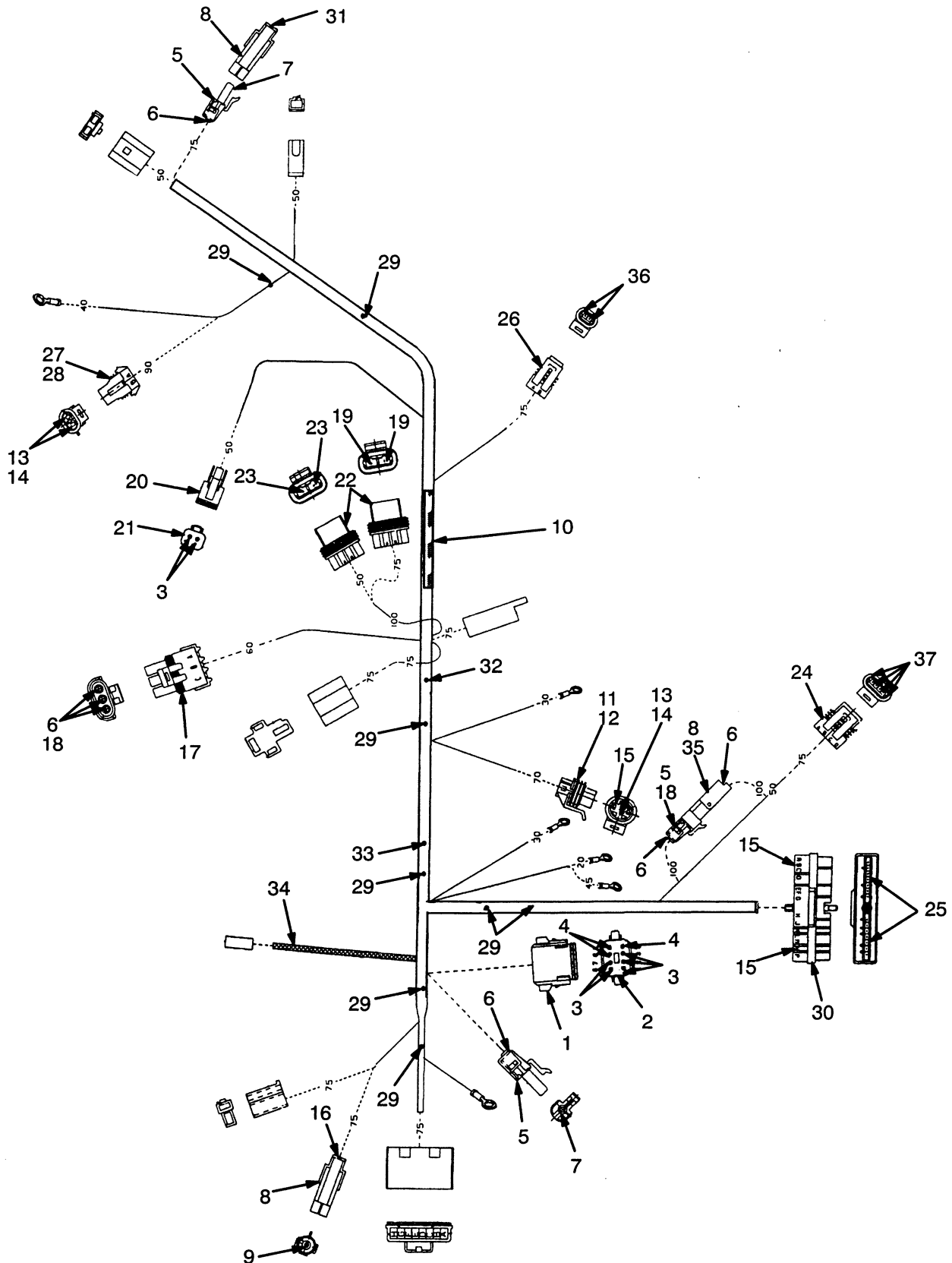
**LPG 2.2L**

REF	PART NO.	NAME OF PART	QTY	REF	PART NO.	NAME OF PART	QTY
	1352171	Engine Harness .....	1	17	1330423	Connector (Cluster Harness) ...	1
1	1347205	Connector (Distributor) .....	1	18	1330434	Socket .....	5
2	1347204	Connector (Distributor) .....	1	19	1330439	Plug .....	3
3	1323581	Plug .....	1	20	1330429	Lock .....	1
4	1347206	Connector (Alternator) .....	1	21	1352142	Terminal .....	5
5	1363885	Terminal .....	1	22	1323579	Seal .....	7
6	1351139	Plug .....	4	23	1323583	Socket .....	1
7	1347209	Seal .....	1	24	1323581	Plug .....	4
8	1354237	Terminal .....	2	25	1323580	Plug .....	1
9	1323586	Connector (ECM Temperature Sender) ....	1	26	1323576	Terminal .....	11
10	1330292	Plug .....	1	27	1323578	Pin .....	3
11	1330283	Terminal .....	3	28	1327958	Connector (MAP Sensor) .....	1
12	1330298	Connector (Starter Relay Harness) .....	1	29	1337350	Terminal .....	2
13	1334999	Pin .....	1	30	1330355	Terminal .....	1
14	1330299	Connector .....	4	31	1347210	Connector (Oil Pressure Light) ..	1
15	1336173	Socket .....	3	32	1330357	Lock .....	1
16	1329147	Seal .....	2	33	1330356	Seal .....	1
				34	1347208	Lock .....	1
				35	1347209	Seal .....	1

## ENGINE HARNESS (Figure 129)

### LPG 3.0L

### LAST USED ON S/N D177B-35854



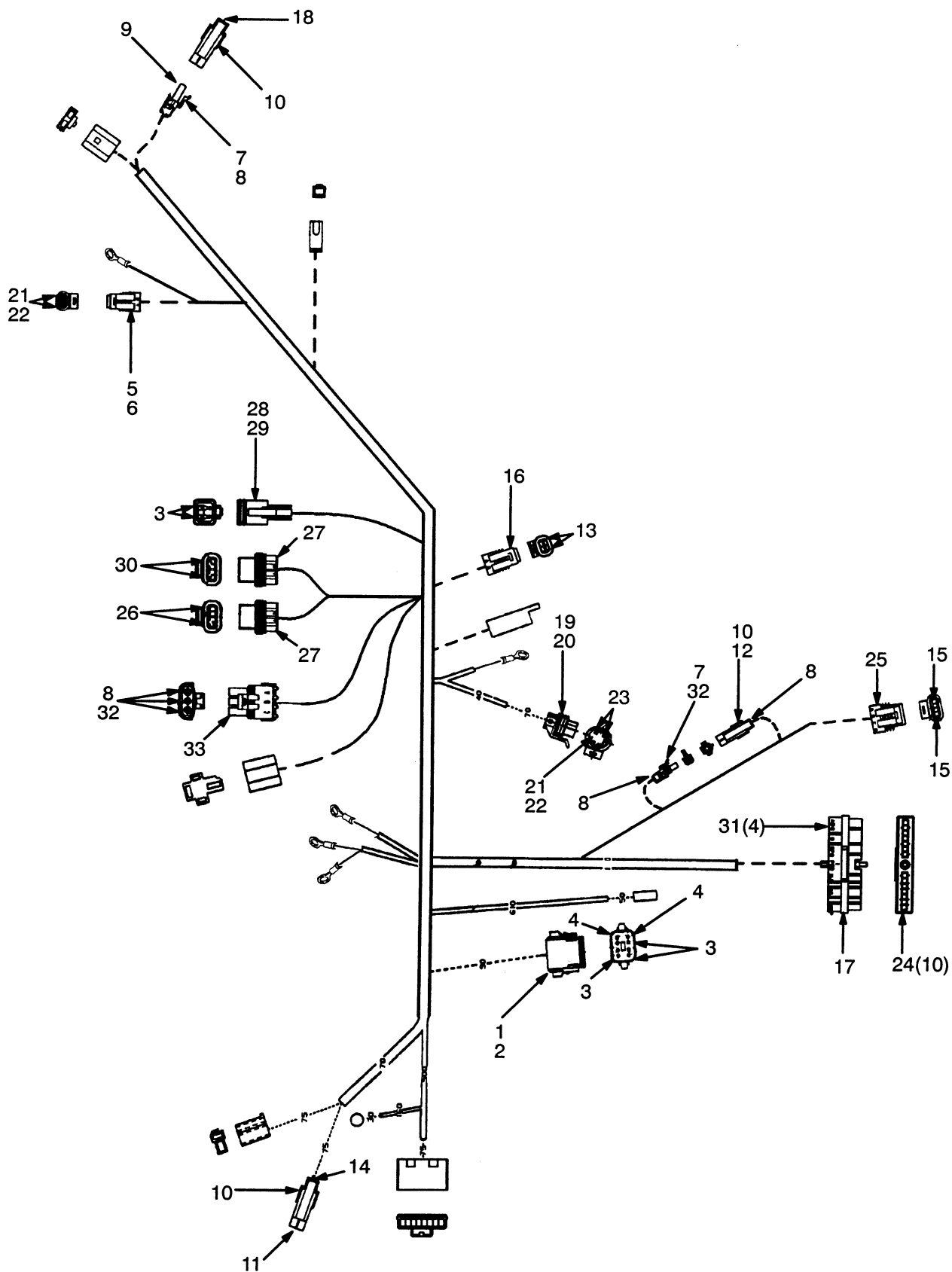
**ENGINE HARNESS**  
**LPG 3.0L**  
**LAST USED ON S/N D177B-35854**

REF	PART NO.	NAME OF PART	QTY	REF	PART NO.	NAME OF PART	QTY
	1376608	Engine Harness .....	1	20	1330419	Connector (LPG Solenoid Valve) .....	1
1	1330423	Connector (Cluster Harness) ...	1	21	1330424	Lock .....	1
2	1330429	Lock .....	1	22	1330292	Plug .....	2
3	1330438	Socket .....	7	23	1336171	Terminal .....	2
4	1330439	Plug .....	3	24	1323575	Connector (Distributor) .....	1
5	1330299	Connector .....	3	25	1323576	Terminal .....	10
6	1323579	Seal .....	7	26	1323586	Connector (Temperature Sender) (MSTS Controller) .....	1
7	1336173	Socket .....	2				
8	1330298	Connector .....	3	27	1345689	Connector (Governor Solenoid Valve) .....	1
9	1334999	Pin .....	1				
10	381919	Conduit .....	AR	28	1345690	Lock .....	1
11	1347210	Connector (Oil Pressure Switch) .....	1	29	1345027	Splice .....	8
12	1330357	Lock .....	1	30	1323580	Connector (MSTS Controller) ...	1
13	1330355	Terminal .....	3	31	1327164	Plug .....	1
14	1330356	Seal .....	3	32	1345029	Splice .....	1
15	1323581	Seal .....	6	33	1345026	Splice .....	1
16	1329147	Seal .....	1	34	16906	Conduit (650 mm) .....	1
17	1327958	Connector (MAP Sensor) .....	1	35	1323583	Socket .....	1
18	1323578	Pin .....	4	36	1354237	Terminal .....	2
19	1330283	Terminal .....	2	37	1352142	Terminal .....	4

## ENGINE HARNESS (Figure 130)

### LPG 3.0L

USED ON S/N D177B-35855 THRU S/N D177B-39471



**ENGINE HARNESS**

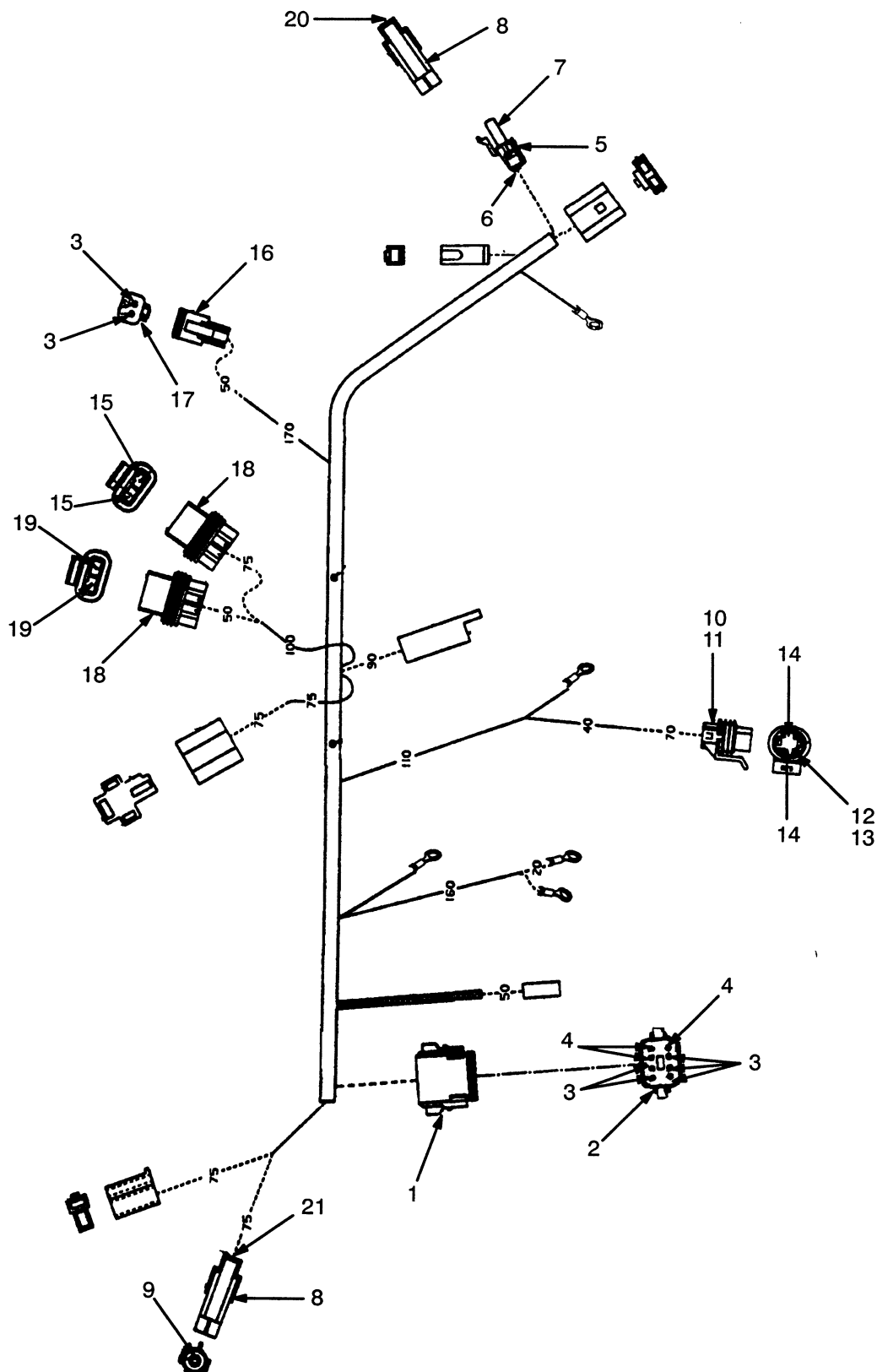
**LPG 3.0L**

**USED ON S/N D177B-35855 THRU S/N D177B-39471**

REF	PART NO.	NAME OF PART	QTY	REF	PART NO.	NAME OF PART	QTY
	1385861	Engine Harness .....	1	17	1323580	Connector .....	1
1	1330423	Connector .....	1	18	1327164	Plug .....	1
2	1330429	Lock .....	1	19	1347210	Connector .....	1
3	1330438	Socket .....	7	20	1330357	Lock .....	1
4	1330439	Plug .....	3	21	1330355	Terminal .....	3
5	1345689	Connector .....	1	22	1330356	Seal .....	3
6	1345690	Lock .....	1	23	1323581	Plug .....	2
7	1330299	Connector .....	2	24	1323576	Terminal .....	10
8	1323579	Seal .....	6	25	1323575	Connector .....	1
9	1336173	Socket .....	1	26	1336171	Terminal .....	2
10	1330298	Connector .....	3	27	1330292	Connector .....	2
11	1334999	Pin .....	1	28	1330424	Lock .....	1
12	1323583	Socket .....	1	29	1330419	Connector .....	1
13	1354237	Terminal .....	2	30	1330283	Terminal .....	2
14	1329147	Seal .....	1	31	1323581	Plug .....	4
15	1352142	Terminal .....	4	32	1323578	Pin .....	4
15	1354237	Terminal (Optional) .....	4	33	1327958	Connector .....	1
16	1323586	Connector .....	1				



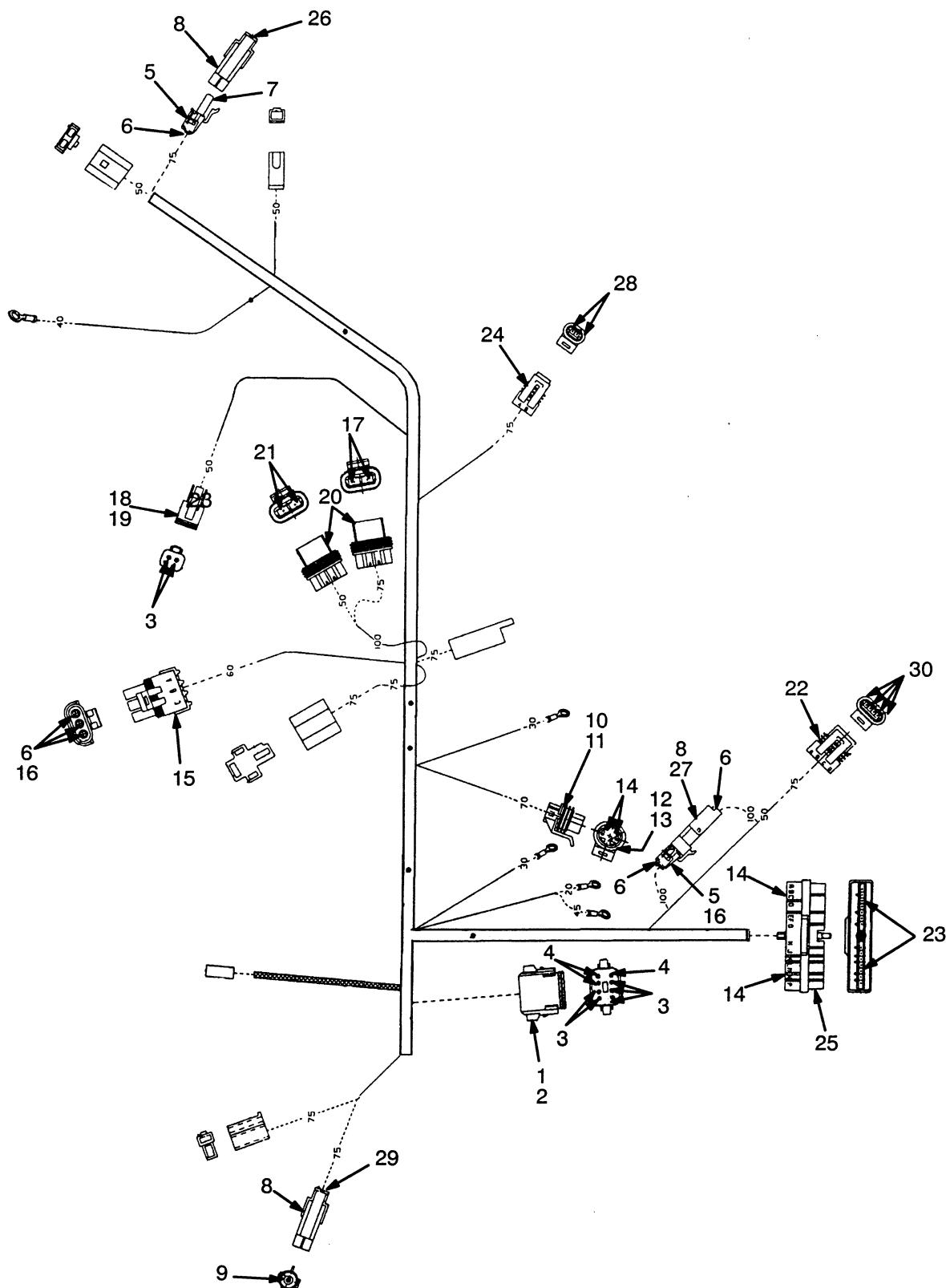
## ENGINE HARNESS (Figure 131) LPG 3.0L WITHOUT MSTs FIRST USED ON S/N D177B-39472



**ENGINE HARNESS**  
**LPG 3.0L WITHOUT MSTs**  
**FIRST USED ON S/N D177B-39472**

REF	PART NO.	NAME OF PART	QTY	REF	PART NO.	NAME OF PART	QTY
	1383401	Harness (LPG Engine) .....	1	11	1330357	Lock .....	1
1	1330423	Connector .....	1	12	1330355	Terminal .....	1
2	1330429	Lock .....	1	13	1330356	Seal .....	1
3	1330438	Socket .....	7	14	1323581	Plug .....	2
4	1330439	Plug .....	3	15	1330283	Terminal .....	2
5	1330299	Connector .....	1	16	1330419	Connector .....	1
6	1323579	Seal .....	1	17	1330424	Lock .....	1
7	1336173	Socket .....	1	18	1330292	Connector .....	2
8	1330298	Connector .....	2	19	1336171	Terminal .....	2
9	1334999	Pin .....	1	20	1327164	Plug .....	1
10	1347210	Connector .....	1	21	1329147	Seal .....	1

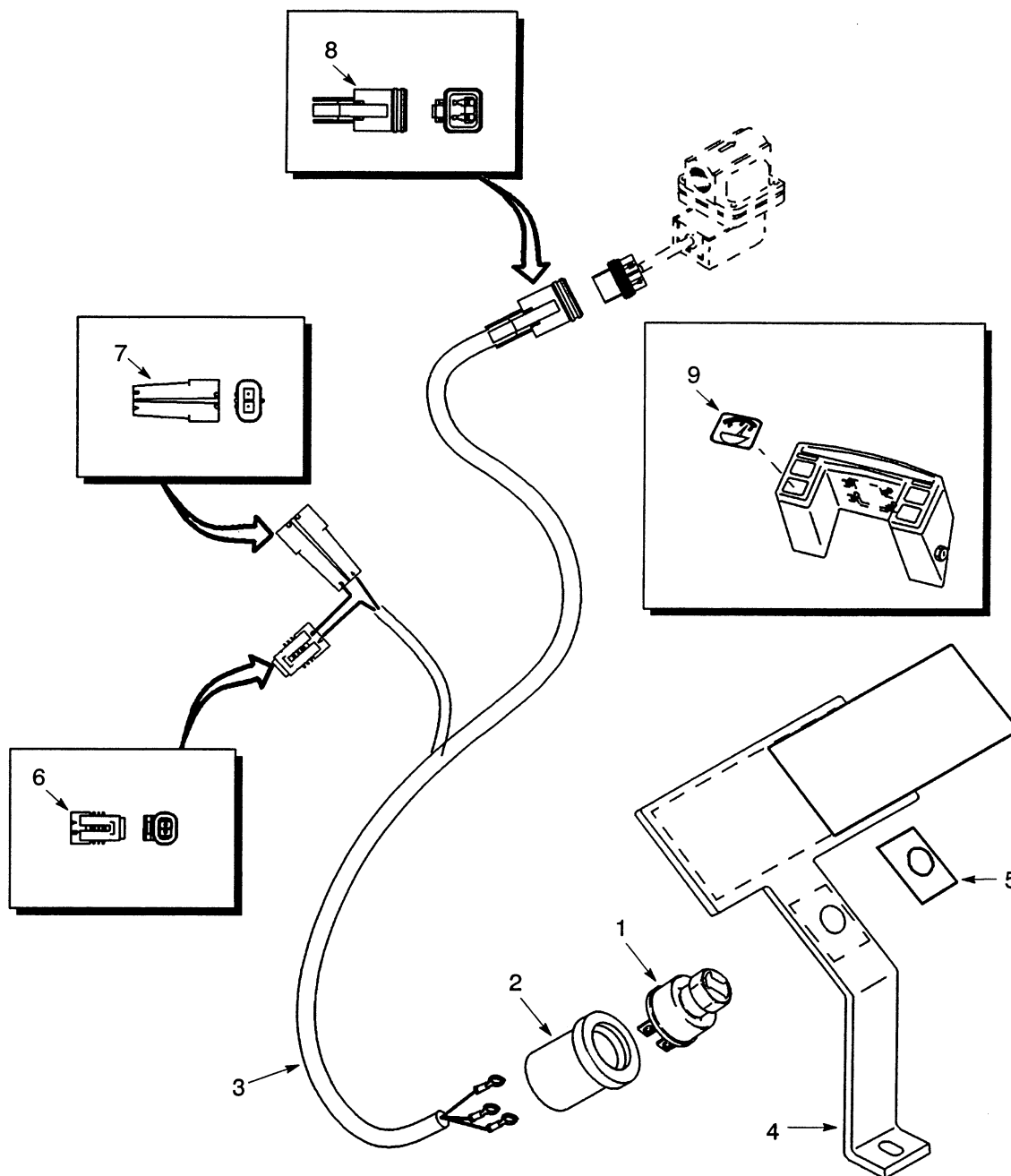
## ENGINE HARNESS (Figure 132) LPG 3.0L WITH MSTs FIRST USED ON S/N D177B-39472



**ENGINE HARNESS**  
**LPG 3.0L WITH MSTs**  
**FIRST USED ON S/N D177B-39472**

REF	PART NO.	NAME OF PART	QTY	REF	PART NO.	NAME OF PART	QTY
	1383421	Harness (LPG Engine) (With MSTs) .....	1	16	1323578	Pin .....	4
1	1330423	Connector .....	1	17	1330283	Terminal .....	2
2	1330429	Lock .....	1	18	1330419	Connector .....	1
3	1330438	Socket .....	7	19	1330424	Lock .....	1
4	1330439	Plug .....	3	20	1330292	Connector .....	2
5	1330299	Connector .....	2	21	1336171	Terminal .....	2
6	1323579	Seal .....	6	22	1323575	Connector .....	1
7	1336173	Socket .....	1	23	1323576	Terminal .....	10
8	1330298	Connector .....	3	24	1323586	Connector .....	1
9	1334999	Pin .....	1	25	1323580	Connector .....	1
10	1347210	Connector .....	1	26	1327164	Plug .....	1
11	1330357	Lock .....	1	27	1323583	Socket .....	1
12	1330355	Terminal .....	1	28	1354237	Terminal .....	2
13	1330356	Seal .....	1	29	1329147	Seal .....	1
14	1323581	Plug .....	6	30	1352142	Terminal .....	4
15	1327958	Connector .....	1	30	1354237	Terminal (Optional) .....	4

## HARNESS AND SWITCH (Figure 133) DUAL FUEL 3.0L

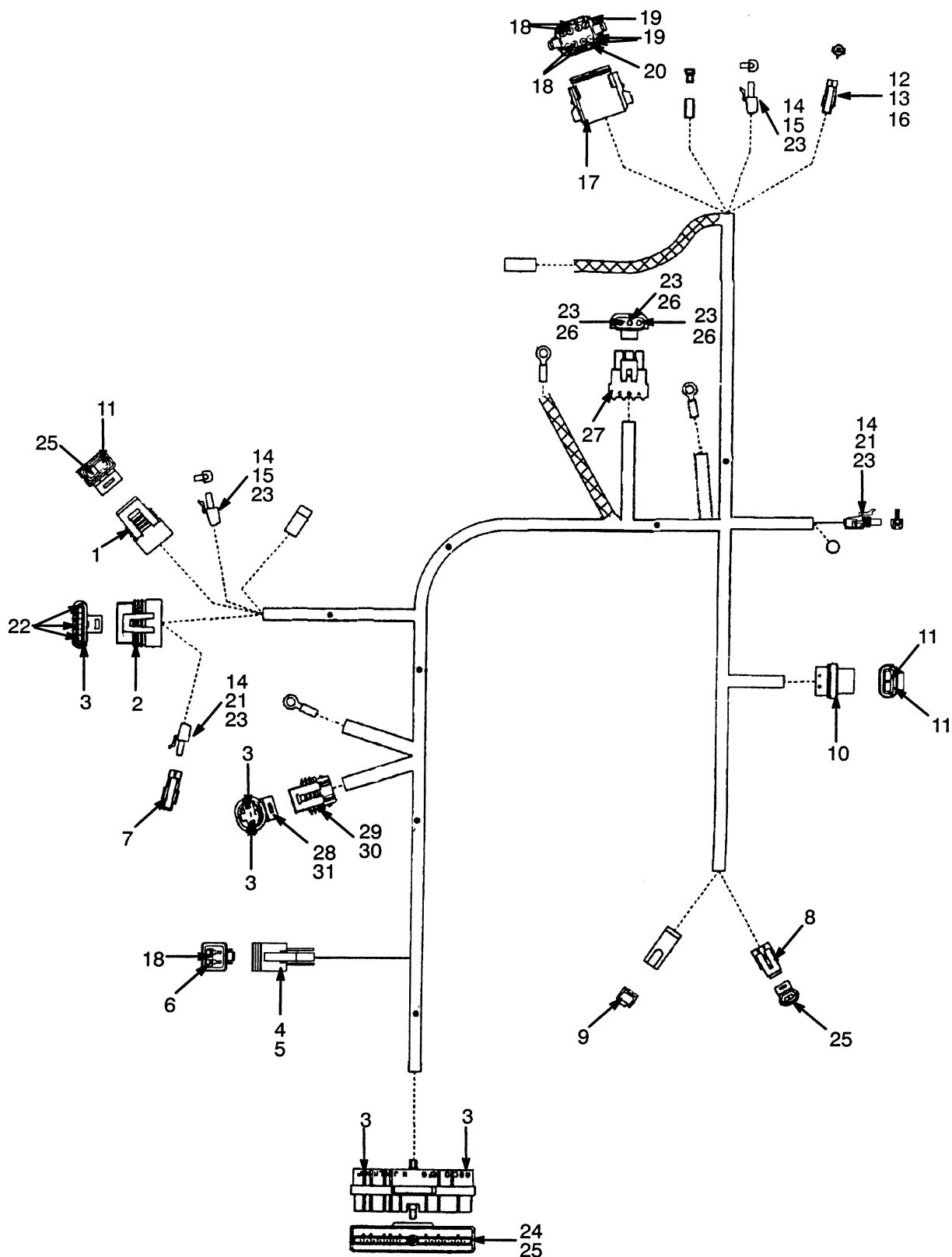


REF	PART NO.	NAME OF PART	QTY	REF	PART NO.	NAME OF PART	QTY
1	1369470	Switch .....	1	6	1336870	Connector .....	1
2	864764	Boot .....	1	7	1330292	Connector .....	1
3	865216	Harness .....	1	8	1330419	Connector .....	1
4	1378515	Bracket .....	1	9	864740	Decal .....	1
5	864763	Nameplate .....	1				

## This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

## ENGINE HARNESS-LPS (Figure 134)

LPG 2.2L



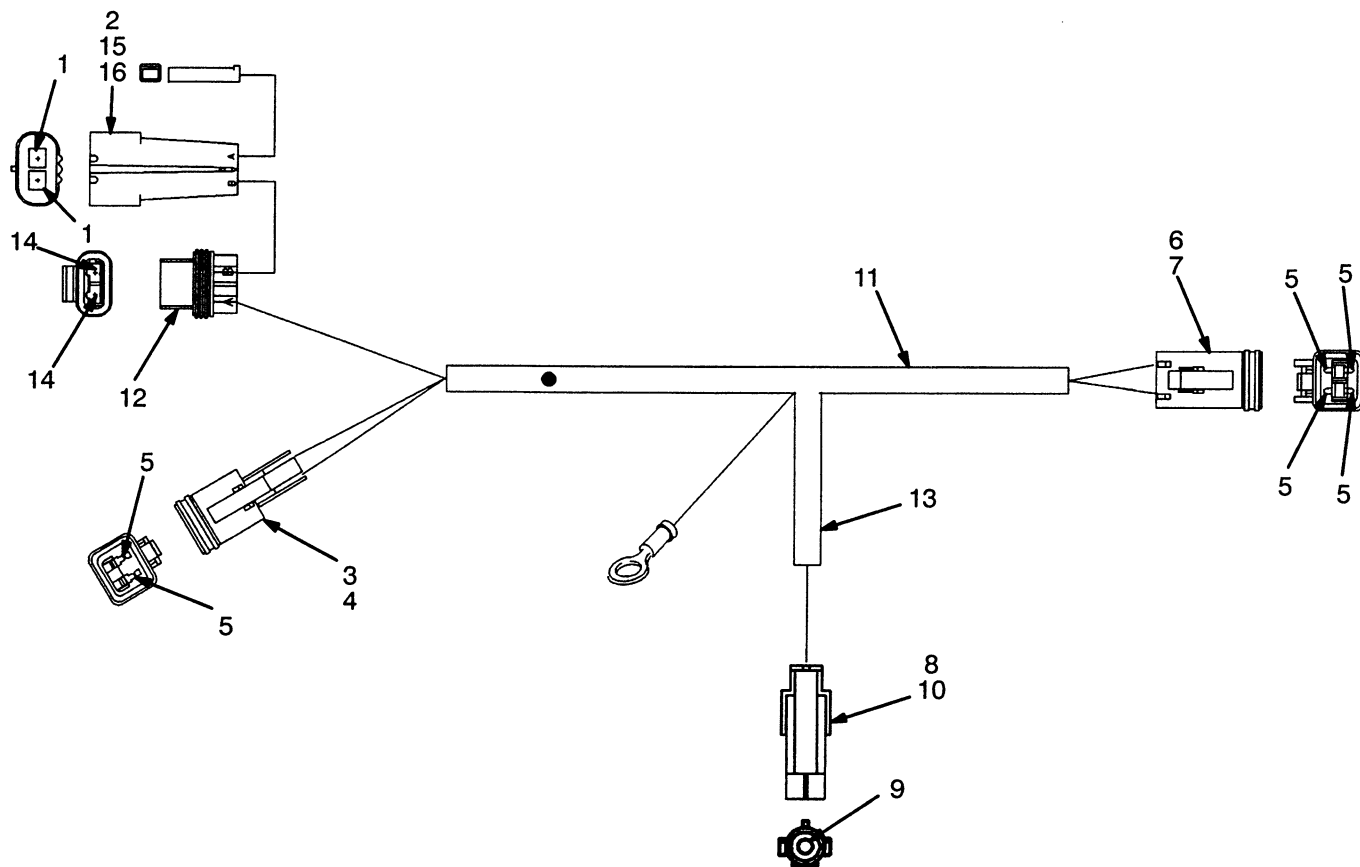
**ENGINE HARNESS-LPS**

**LPG 2.2L**

REF	PART NO.	NAME OF PART	QTY	REF	PART NO.	NAME OF PART	QTY
	1368930	Wire Harness .....	1	16	1329147	Seal .....	1
1	1347205	Connector (Distributor) .....	1	17	1330423	Connector (Cluster Harness) ...	1
2	1347204	Connector (Distributor) .....	1	18	1330438	Socket .....	5
3	1323581	Plug .....	7	19	1330439	Plug .....	3
4	1330419	Connector (Alternator) .....	1	20	1330429	Lock .....	1
5	1330424	Lock .....	1	21	1323583	Socket .....	1
6	1363886	Socket .....	2	22	1330296	Fitting .....	5
7	1327164	Plug .....	1	23	1323579	Seal .....	7
8	1323586	Connector (ECM Temperature Sender) ....	1	24	1323580	Plug .....	1
9	370730	Fitting .....	1	25	1323576	Fitting .....	13
10	1330292	Plug .....	1	26	1323578	Fitting .....	3
11	1330283	Terminal .....	3	27	1327958	Fitting .....	1
12	1330298	Fitting .....	2	28	1330355	Terminal .....	1
13	1334999	Pin .....	1	29	1347210	Connector (Oil Pressure Light) ..	1
14	1330299	Fitting .....	4	30	1330357	Lock .....	1
15	1336173	Socket .....	3	31	1330356	Seal .....	1



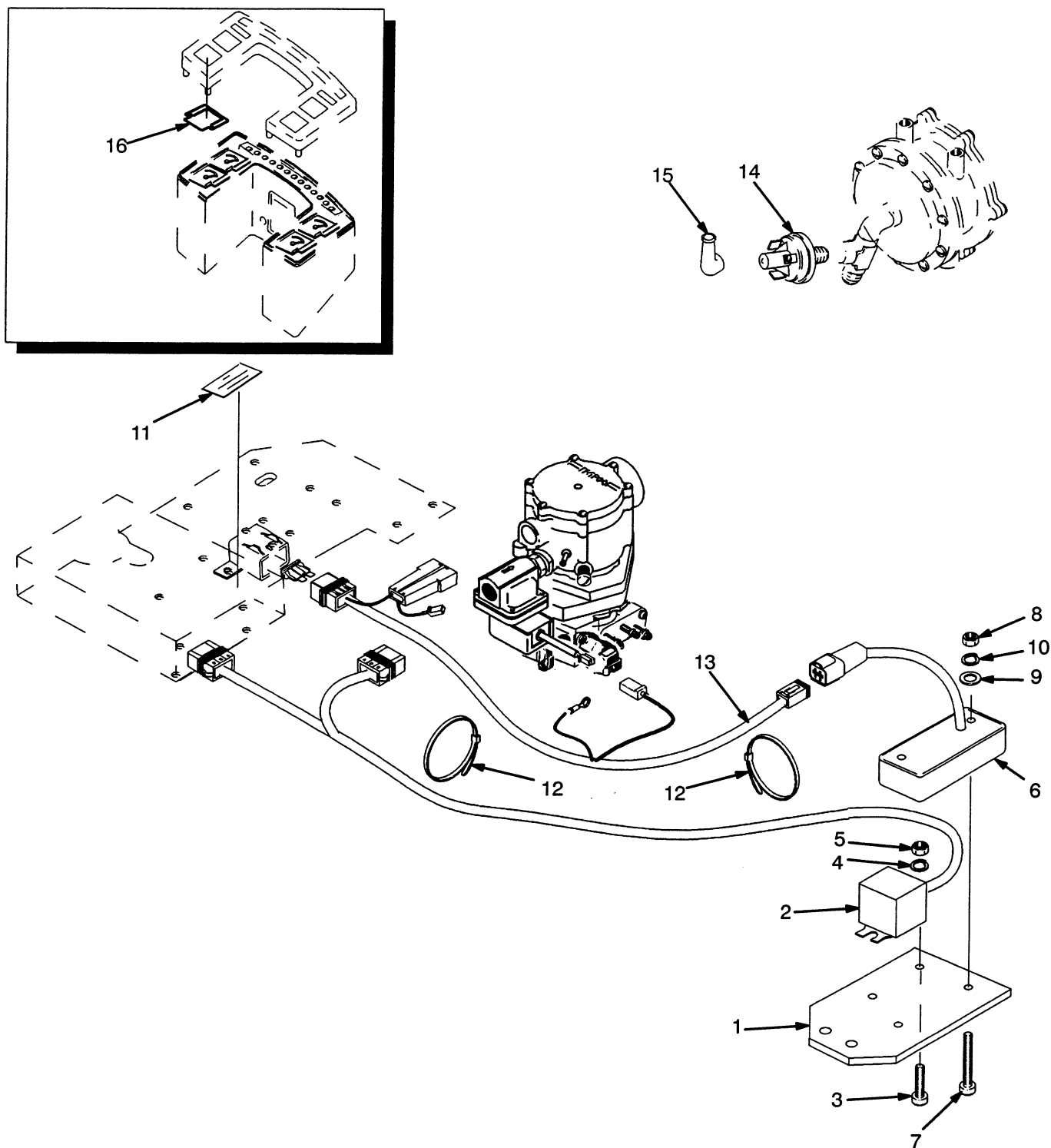
## HARNESS (Figure 135) LPG FIELD CONVERSION 2.2L



REF	PART NO.	NAME OF PART	QTY	REF	PART NO.	NAME OF PART	QTY
	1374623	Wire Harness .....	1	8	1330298	Connector (Tachometer) .....	1
1	1337392	Terminal .....	2	9	1323578	Terminal .....	1
2	1336874	Seal .....	1	10	1323579	Seal .....	1
3	1330419	Connector (Governor Solenoid Valve) .....	1	11	381919	Conduit .....	AR
4	1330424	Lock .....	1	12	1330292	Connector (Fuse) .....	1
5	1330438	Terminal (Socket) .....	6	13	30492	Conduit (175 mm) .....	1
6	1330421	Connector (RPM Limiter) .....	1	14	1330283	Terminal .....	2
7	1330427	Lock .....	1	15	1336870	Connector .....	1
				16	1336871	Lock .....	1

## This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

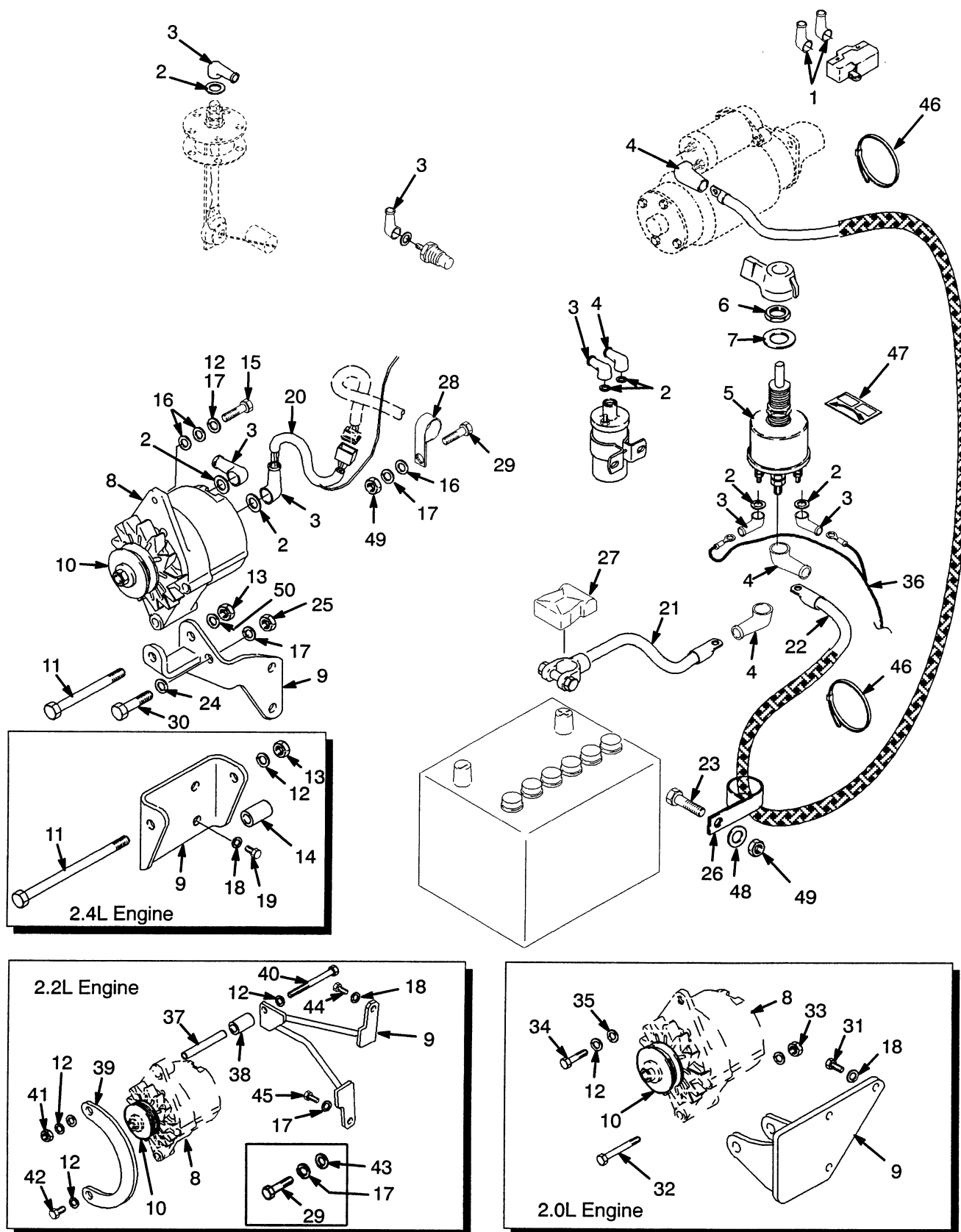
## ELECTRICAL (Figure 136) LPG FIELD CONVERSION 2.2L



**ELECTRICAL**  
**LPG FIELD CONVERSION 2.2L**

REF	PART NO.	NAME OF PART	QTY	REF	PART NO.	NAME OF PART	QTY
1	864829	Bracket .....	1	10	15163	Lockwasher .....	2
2	1374622	Timing Optimizer .....	1	11	864824	Label (Lockoff Solenoid Fuse) ...	1
3	220289	Screw .....	2	12	137852	Strap Clamp .....	2
4	15151	Lockwasher .....	2	13	.....	Harness (LPG Conversion) .....	1
5	15049	Nut .....	2			☞ Figure 135	
6	1354125	Rev Limiter Assembly .....	1	14	1351133	Low Pressure Switch .....	1
7	220314	Screw .....	2	15	190383	Boot .....	1
8	15039	Nut .....	2	16	1365888	Cover .....	1
9	197066	Washer .....	2				

## ELECTRICAL (Figure 137) TYPES GS, LPS, AND DS



## ELECTRICAL

### TYPES GS, LPS, AND DS

**KEY:**

**A:** Diesel 2.4L

**B:** Diesel 2.8L & 3.1L

**C:** Gasoline & LPG 2.0L

**D:** Gasoline & LPG 2.2L

QTY							QTY						
REF	PART NO.	NAME OF PART	A	B	C	D	REF	PART NO.	NAME OF PART	A	B	C	D
1	387869	Boot .....	2	2	2	2	17	292681	Washer .....	1	2	..	3
2	18500	Washer .....	3	3	5	2	18	292682	Washer .....	2	..	3	1
3	190383	Boot .....	5	5	7	6	19	287503	Capscrew .....	2	..	..	..
4	204223	Boot .....	3	3	4	4	20	1354227	Alternator Harness .....	1	..	..	..
5	1324517	Disconnect Switch .....	1	1	1	1	20	1354228	Alternator Harness .....	1	..	..	..
6	1352191	Nut .....	2	2	2	2	20	2034902	Alternator Harness .....	..	1	1	1
7	15136	Washer .....	1	1	1	1	21	1368061	Battery Cable .....	1	1	..	..
8	.....	Alternator .....	1	1	1	1	21	1368061	Battery Cable .....	..	1	1	1
Figure 147							22	121335	Battery Cable .....	1	1	..	..
9	1352569	Alternator Bracket .....	1	..	..	..	22	1354209	Battery Cable .....	..	1	..	..
9 <sup>c</sup>	1352571	Alternator Bracket .....	..	1	..	..	22	86377	Battery Cable .....	..	..	1	..
9 <sup>d</sup>	1383563	Alternator Bracket .....	..	1	..	..	23	287851	Capscrew .....	1	..	..	1
9	1352189	Alternator Bracket .....	..	1	..	..	24 <sup>c</sup>	320158	Washer .....	1	..	..	..
9	1352184	Alternator Bracket .....	..	..	1	1	25 <sup>c</sup>	239503	Nut .....	1	..	..	..
10 <sup>e</sup>	353291	Pulley .....	1	..	1	..	25 <sup>d</sup>	239503	Nut .....	1	..	..	..
10 <sup>g</sup>	1452145	Pulley .....	..	1	..	..	26	1310611	Clamp .....	1	1	..	..
10 <sup>a</sup>	353291	Pulley .....	1	..	..	..	26	1301721	Clamp .....	..	..	1	1
10 <sup>b</sup>	1373821	Pulley .....	1	..	..	..	27	321158	Boot .....	1	1	1	1
10	1352188	Pulley .....	..	..	1	1	28	1360146	Clamp .....	1	..	..	..
11	218585	Capscrew .....	1	..	..	..	29	136749	Capscrew .....	1	..	1	1
11 <sup>c</sup>	221482	Capscrew .....	1	..	..	..	30 <sup>c</sup>	292508	Capscrew .....	1	..	..	..
11 <sup>d</sup>	221487	Capscrew .....	1	..	..	..	30 <sup>d</sup>	176640	Capscrew .....	1	..	..	..
12	15155	Washer .....	1	1	1	3	31	287503	Capscrew .....	..	3	..	..
13 <sup>c</sup>	221705	Nut .....	1	1	..	..	32	18518	Capscrew .....	..	1	..	..
13 <sup>d</sup>	145639	Nut .....	1	..	..	..	33	145639	Nut .....	..	1	..	..
14	1352568	Spacer .....	1	..	..	..	34	18497	Capscrew .....	..	1	..	..
15	221455	Capscrew .....	1	1	..	..	35	18515	Washer .....	..	AR	..	..
16	320157	Washer .....	1	..	..	..	36	1354229	Harness .....	..	..	1	1
16	198956	Washer .....	3	..	..	..			Disconnect Switch				
							37	1354248	Sleeve .....	..	..	1	1

CONTINUED ON NEXT PAGE

## ELECTRICAL

### TYPES GS, LPS, AND DS

REF	PART NO.	NAME OF PART	QTY			
			A	B	C	D
38	1352187	Spacer .....	..	..	1	
39	1352185	Strap Bracket .....	..	..	1	
40	18530	Capscrew .....	..	..	1	
41	221705	Nut .....	..	..	1	
42	18496	Capscrew .....	..	..	1	
43	313828	Nut .....	..	..	1	
44	292515	Capscrew .....	..	..	1	
45	132861	Capscrew .....	..	..	1	
46	273775	Strap Clamp .....	AR	AR	AR	AR
47	1352190	Label				
		Battery Disconnect .....	1	1	1	1

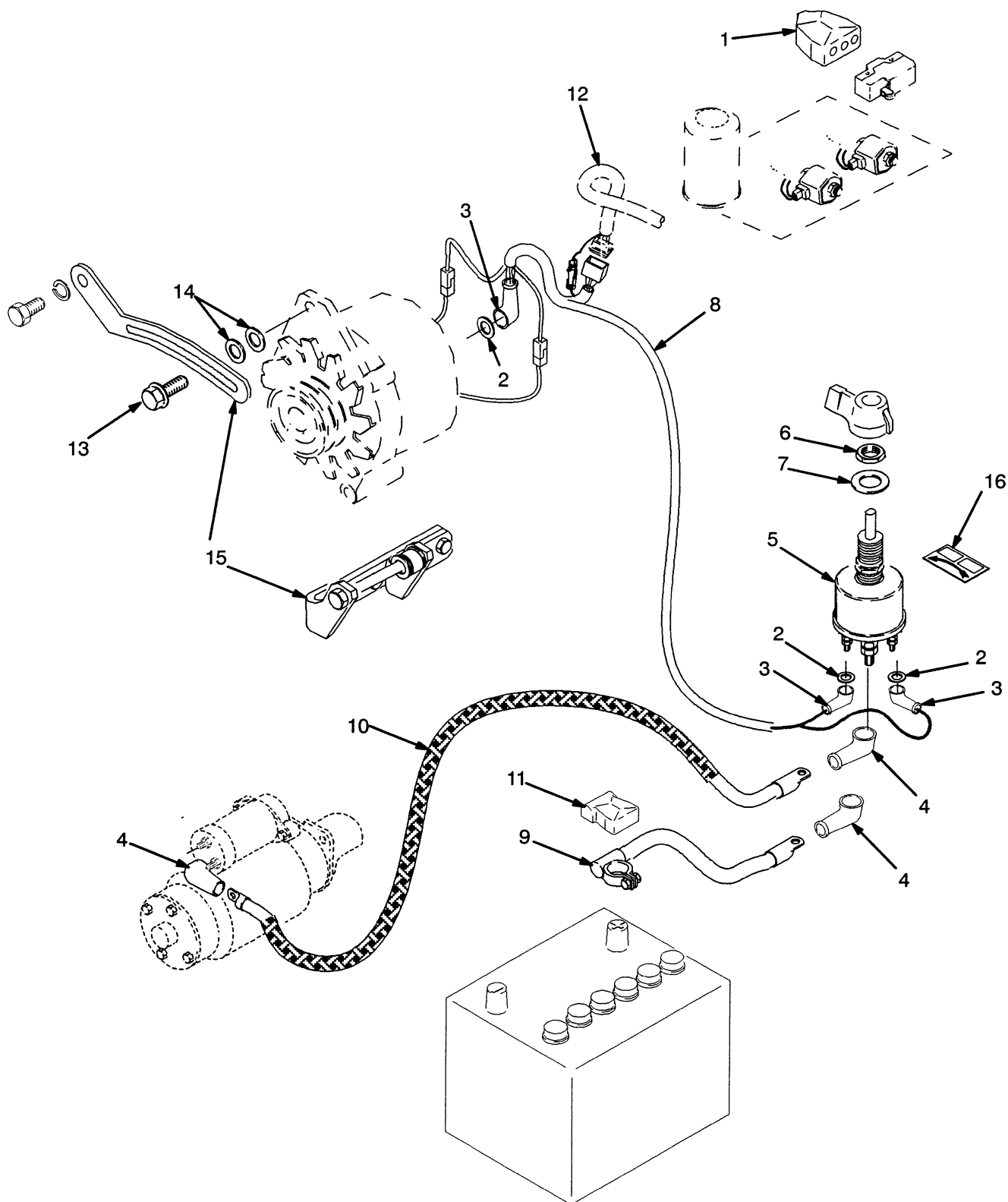
REF	PART NO.	NAME OF PART	QTY			
			A	B	C	D
48	320158	Washer .....	1	1	..	1
49	239503	Nut .....	1	1	..	1
50	d 198956	Washer .....	1	..	..	
a	2.8L					
b	3.1L					
c	Last Used On S/N D177B-32751					
d	First Used On S/N D177B-32752					
e	Last Used On S/N D177B-42119					
g	First Used On S/N D177B-42120					

## This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.



## ELECTRICAL (Figure 138)

### TYPES GS AND LPS 3.0L

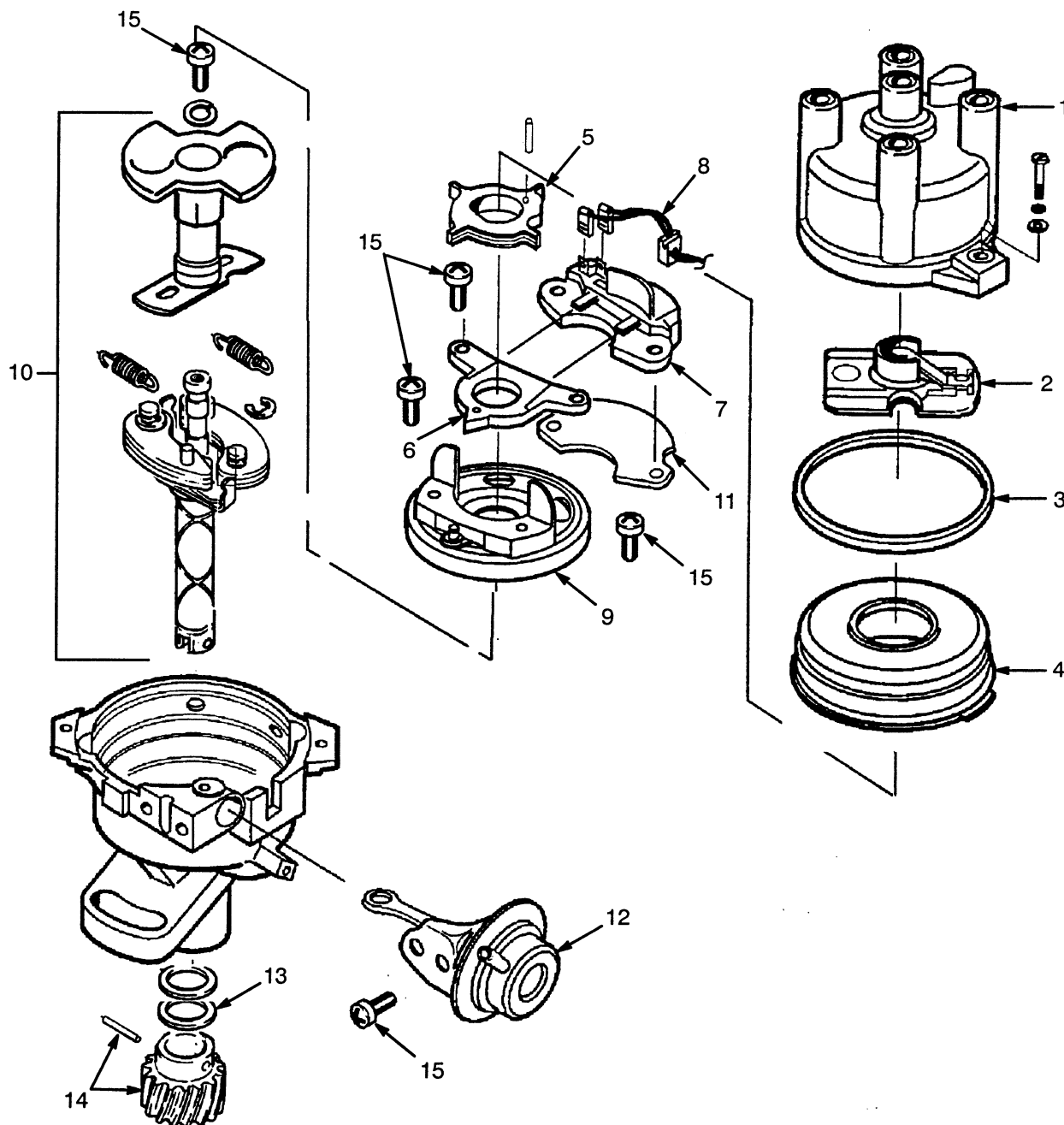


**ELECTRICAL**  
**TYPES GS AND LPS 3.0L**

REF	PART NO.	NAME OF PART	QTY	REF	PART NO.	NAME OF PART	QTY
1	190380	Boot .....	1	12	.....	Engine Harness .....	1
2	18500	Washer .....	3			☞ Figure 126, Figure 129	
3	190383	Boot .....	3	13	170554	Screw .....	1
4	204223	Boot .....	3	14	18515	Washer .....	2
5	1324517	Disconnect Switch .....	1	15	.....	Mount (Alternator) .....	1
6	1352191	Nut .....	2			☞ Figure 143	
7	15136	Washer .....	1	16	1352190	Label (Battery Disconnect) .....	1
8	1377867	Harness (Alternator) .....	1				
9	1368061	Battery Cable .....	1	a	Last Used On S/N D177B-42119		
10	1376654	Battery Cable .....	1	b	First Used On S/N D177B-42120		
11	257241	Boot .....	1				

## DISTRIBUTOR (Figure 139)

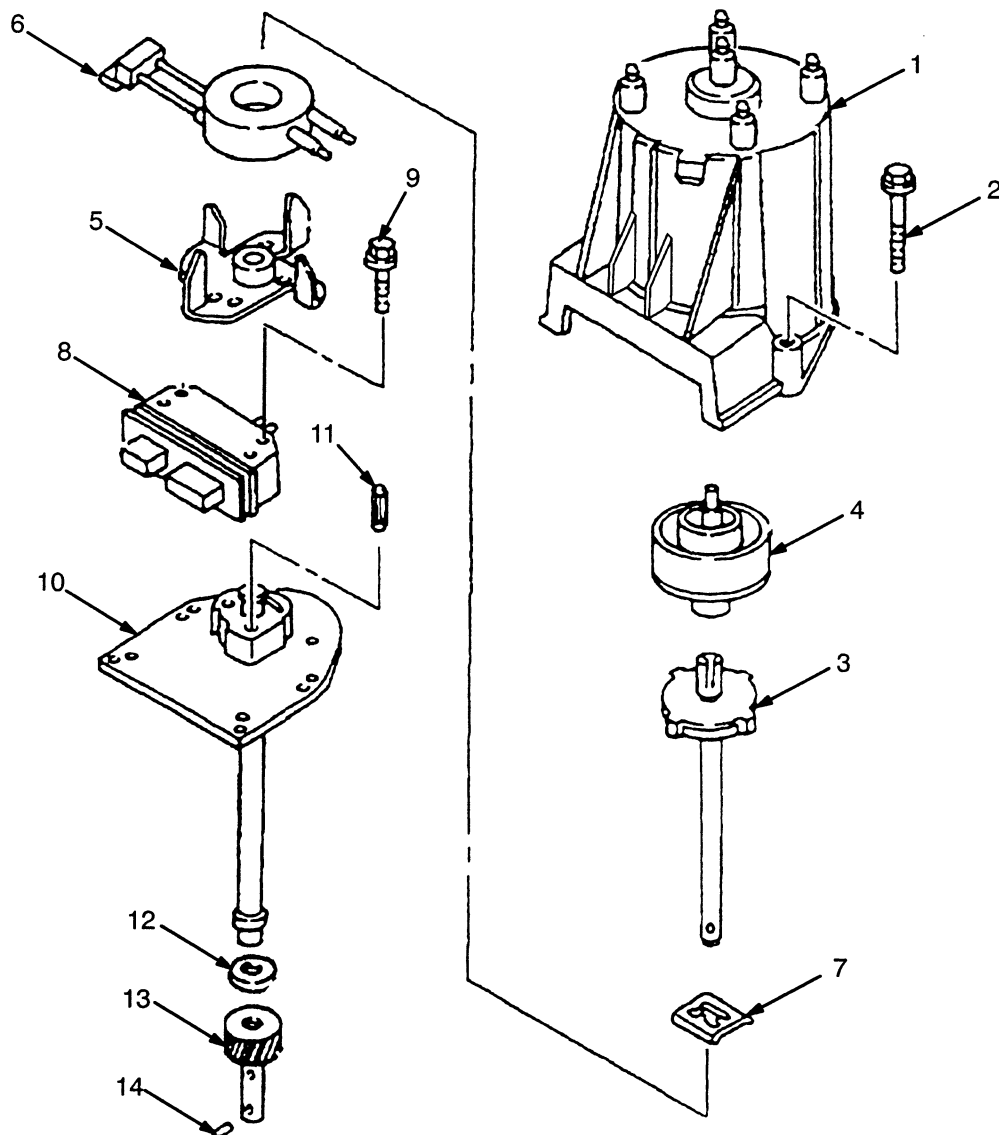
GASOLINE AND LPG 2.0L



REF	PART NO.	NAME OF PART	QTY	REF	PART NO.	NAME OF PART	QTY
	1453562	Distributor .....	1	8	1362037	Lead Wire .....	1
1	1326394	Cap .....	1	9	1326537	Breaker .....	1
2	1326395	Rotor .....	1	10	1362036	Governor Set .....	1
3	1326396	Packing .....	1	11	1326538	Heatsink .....	1
4	1326397	Cover .....	1	12	1362038	Vacuum Set .....	1
5	1326398	Signal Rotor .....	1	13	1362039	Oil Seal .....	1
6	1326399	Pick-Up Set .....	1	14	1362042	Coupling .....	1
7	1326536	Igniter Set .....	1	15	1362040	Screw Set .....	1

# **DISTRIBUTOR (Figure 140)**

**GASOLINE AND LPG 3.0L**

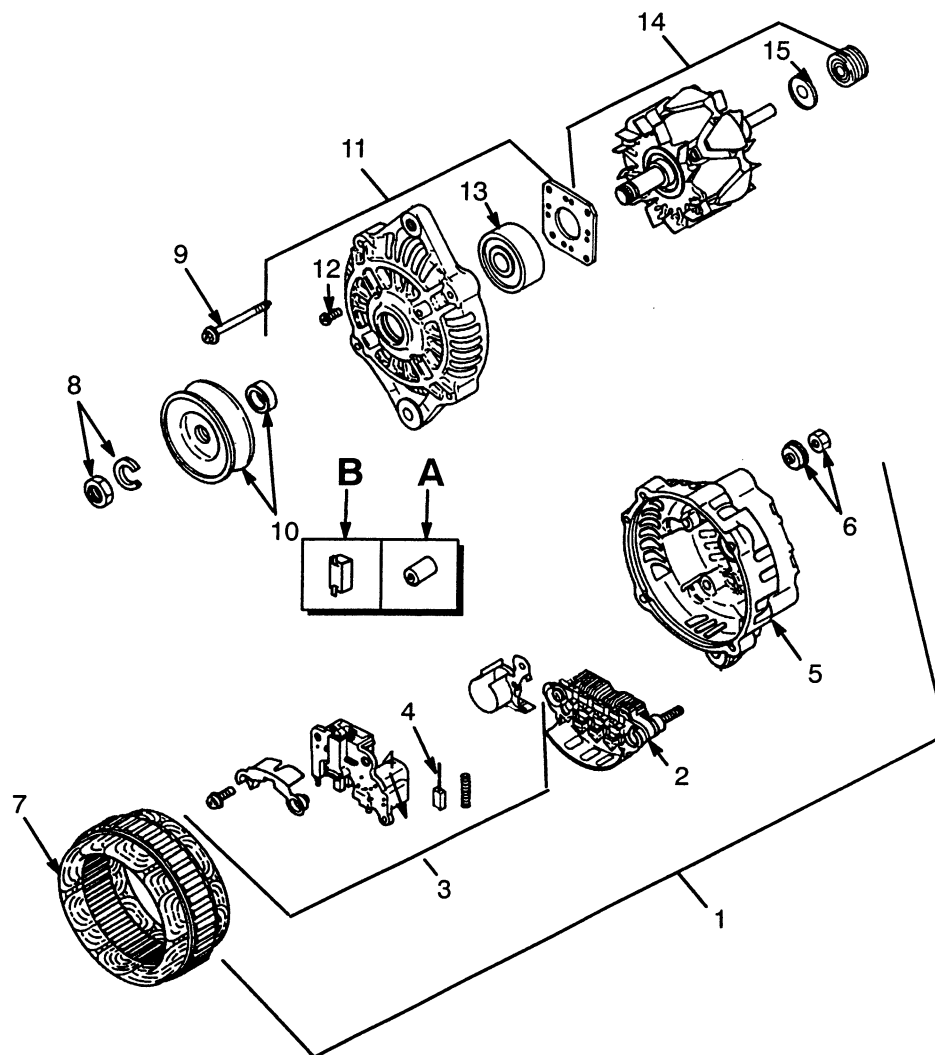


REF	PART NO.	NAME OF PART	QTY
	1331330	Distributor .....	1
1 <sup>a</sup>	1334400	Cap .....	1
2	1334401	Screw .....	2
3	1334402	Shaft .....	1
4 <sup>a</sup>	1334403	Rotor .....	1
5	1334404	Pole Piece .....	1
6	1334405	Coil .....	1
7	1334406	Retainer .....	1
8	1334407	Module .....	1

REF	PART NO.	NAME OF PART	QTY
9	1334408	Screw .....	2
10	1334409	Housing .....	1
11	1334410	Pin .....	1
12	1334411	Seal .....	1
13	1334412	Gear .....	1
14	1334413	Pin .....	1

<sup>a</sup> Included In Minor Tune-Up Kit 996336

## ALTERNATOR (Figure 141) GASOLINE AND LPG 2.0L



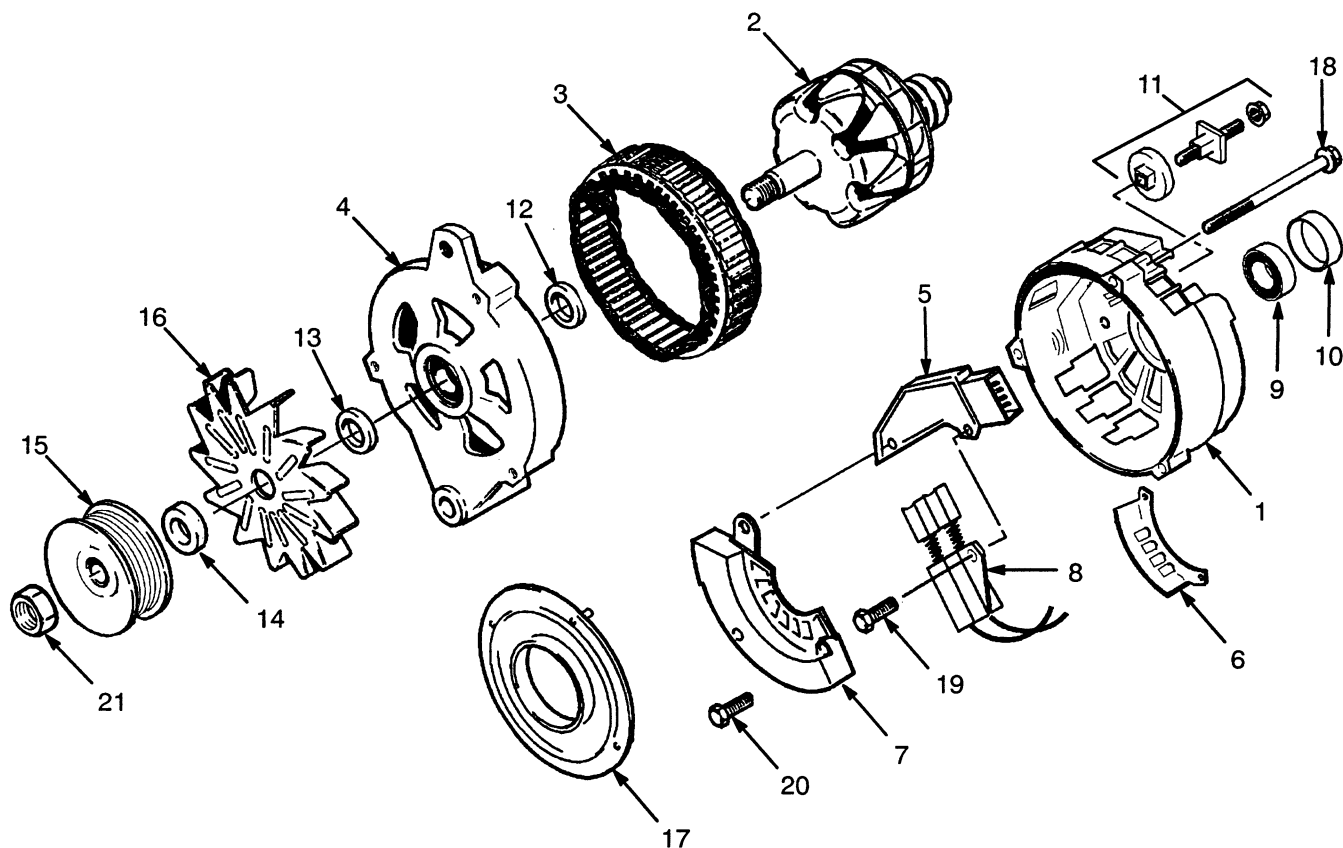
### KEY:

A: Canister Condensor

B: Resin Condensor

REF	PART NO.	NAME OF PART	QTY		REF	PART NO.	NAME OF PART	QTY	
			A	B				A	B
	1361853	Alternator .....	1	..	6	1361862	Nut Kit .....	1	1
	1450928	Alternator .....	..	1	7	1361854	Stator .....	1	1
1	1361851	Rear Cover .....	1	..	8	1361863	Nut Kit .....	1	1
1	1450929	Rear Cover .....	..	1	9	1361864	Screw Kit .....	1	1
2	1361856	Rectifier .....	1	..	10	1361861	Pulley .....	1	1
2	1450930	Rectifier .....	..	1	11	1361850	Front Cover .....	1	1
3	1361858	Regulator .....	1	..	12	1361860	Screw Kit .....	1	1
3	1450931	Regulator .....	..	1	13	1361857	Bearing .....	1	1
4	1361859	Brush .....	2	2	14	1361865	Rotor .....	1	1
5	1361852	Cover .....	1	1	15	1361855	Bearing .....	1	1

**ALTERNATOR (Figure 142)**  
**GASOLINE AND LPG 2.2L**

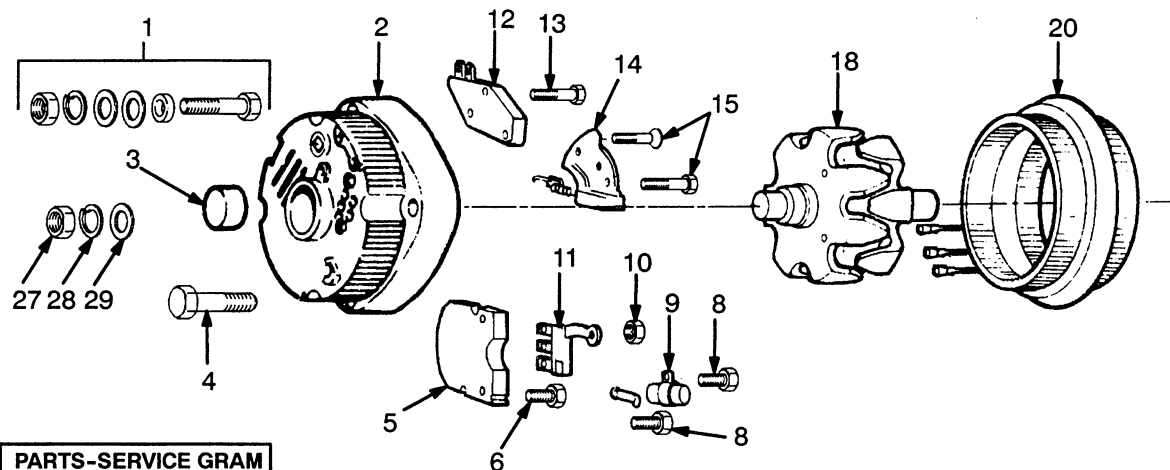


REF	PART NO.	NAME OF PART	QTY	REF	PART NO.	NAME OF PART	QTY
	1339174	Alternator .....	1	12	1358848	Inside Collar .....	1
1	1358837	Frame .....	1	13	1358849	Outside Collar .....	1
2	1358838	Rotor .....	1	14	1358850	Collar .....	1
3	1358839	Stator .....	1	15	1358851	Pulley .....	1
4	1358840	Frame & Bearing .....	1	16	1358852	Fan .....	1
5	1358841	Regulator .....	1	17	1358853	Baffle .....	1
6	1358842	Cover .....	1	18	1358854	Bolt .....	3
7	1358843	Rectifier Bridge .....	1	19	1358855	Screw .....	1
8	1358844	Brush & Holder .....	1	20	1358856	Screw .....	1
9	1358845	Ball Bearing .....	1	21	55580	Nut .....	1
10	1358846	Ring .....	1	21	383789	Adhesive .....	AR
11	1358847	Terminal Set .....	1				

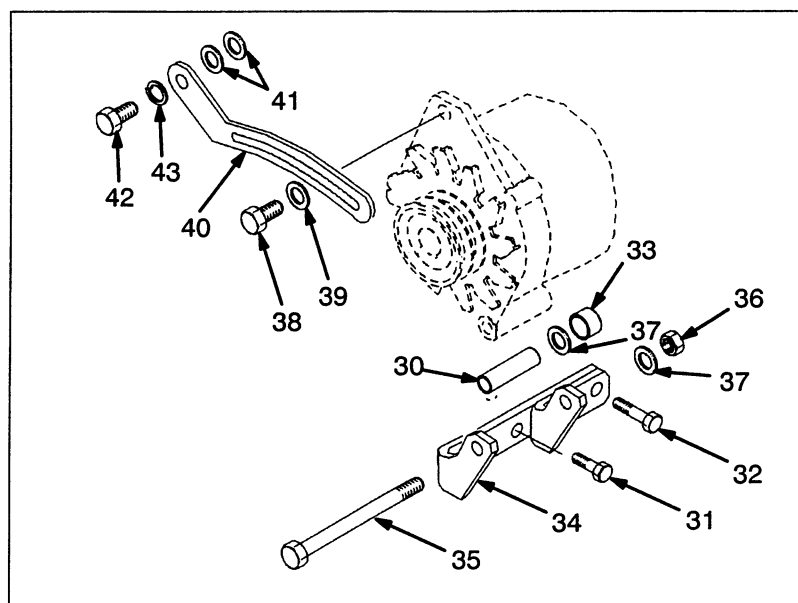
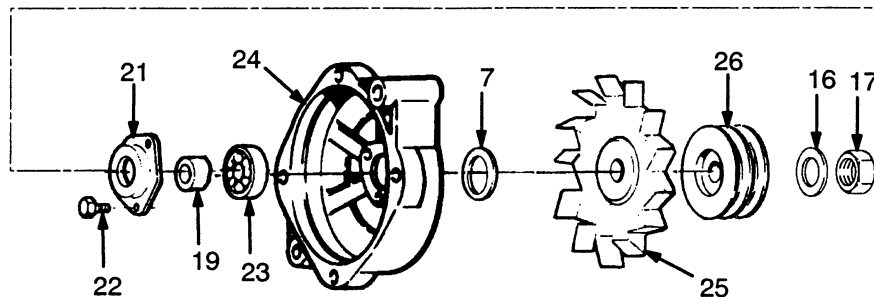
## ALTERNATOR (Figure 143)

### GASOLINE AND LPG 3.0L

### LAST USED ON S/N D177B41709



PARTS-SERVICE GRAM	
Item	Gram
Alternator	F-D-7

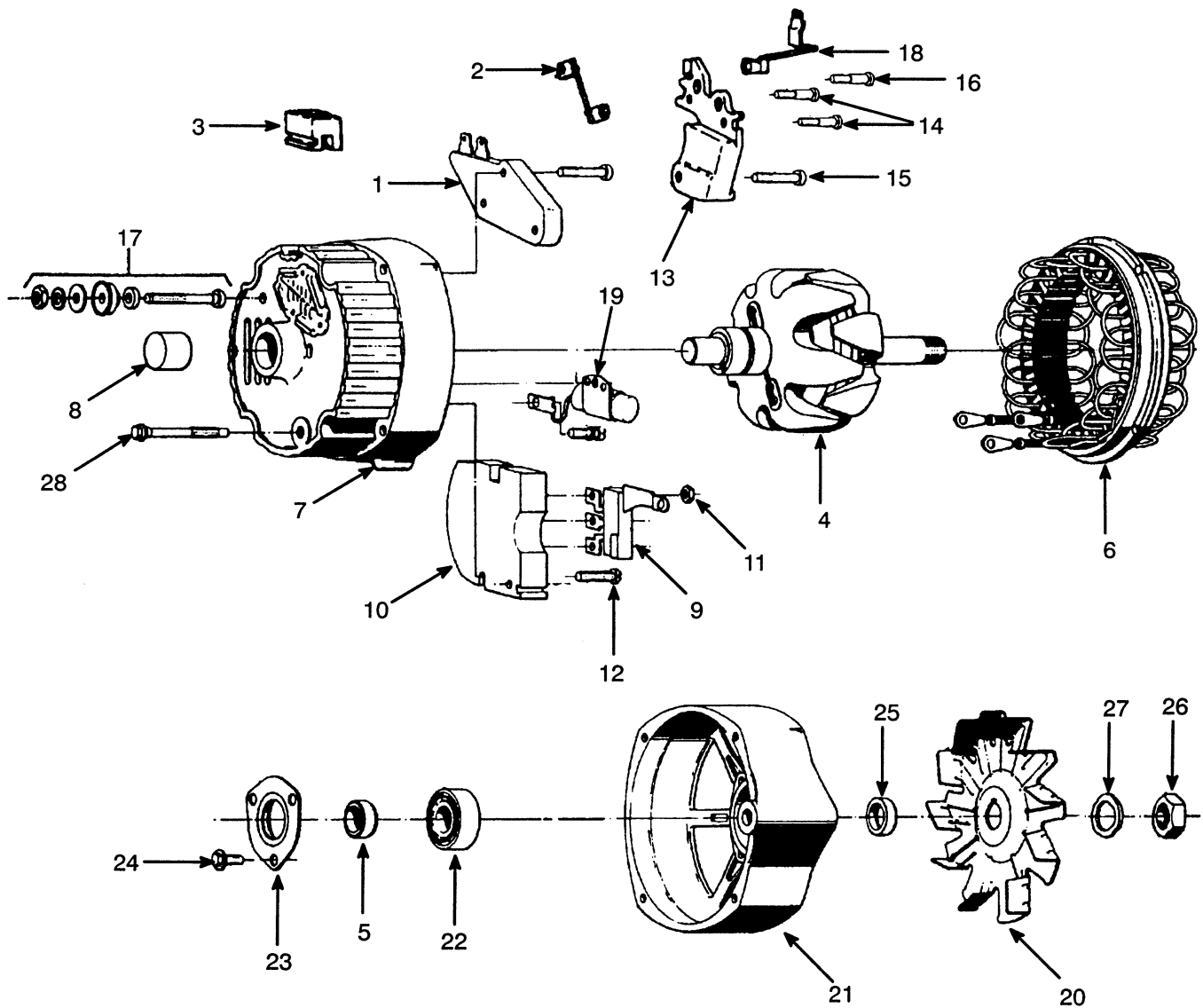


**ALTERNATOR**  
**GASOLINE AND LPG 3.0L**  
**LAST USED ON S/N D177B41709**

REF	PART NO.	NAME OF PART	QTY	REF	PART NO.	NAME OF PART	QTY
<sup>a</sup>	339599	Alternator .....	1	22	344234	Screw .....	3
1	310081	Battery Terminal Kit .....	1	23	290509	Bearing .....	1
2	343038	Frame (CE) .....	1	24	343033	Frame (DE) .....	1
3	128838	Bearing .....	1	25	126358	Fan .....	1
4	128852	Bolt .....	4	26	208483	Pulley .....	1
5	343031	Rectifier .....	1	27	136687	Nut .....	1
6	343032	Screw & Washer .....	1	28	292680	Lockwasher .....	1
7	322177	Collar .....	1	29	320156	Washer .....	1
8	198410	Screw .....	2	30	305100	Sleeve .....	1
9	198401	Capacitor .....	2	31	197853	Capscrew .....	1
10	15039	Nut .....	3	32	196898	Capscrew .....	1
11	343040	Diode Trio .....	1	33	189338	Spacer .....	1
12	290303	Voltage Regulator .....	1	34	179920	Bracket .....	1
13	343042	Screw .....	1	35	18546	Capscrew .....	1
14	343041	Brush Assy .....	1	36	139743	Nut .....	1
14	334970	Brush Spring .....	2	37	261379	Washer .....	2
15	268356	Screw .....	2	38	176640	Screw .....	1
16	128835	Washer .....	1	39	320157	Washer .....	1
17	55580	Nut .....	1	40	1326931	Strap .....	1
18	343046	Rotor .....	1	41	18515	Washer .....	2
19	343029	Collar .....	1	42	18498	Capscrew .....	1
20	343039	Stator .....	1	43	15155	Lockwasher .....	1
21	202003	Retainer .....	1	<sup>a</sup>	Remanufactured Alternator 3012611 R		



## ALTERNATOR (Figure 144) GASOLINE AND LPG 3.0L FIRST USED ON S/N D177B-41710

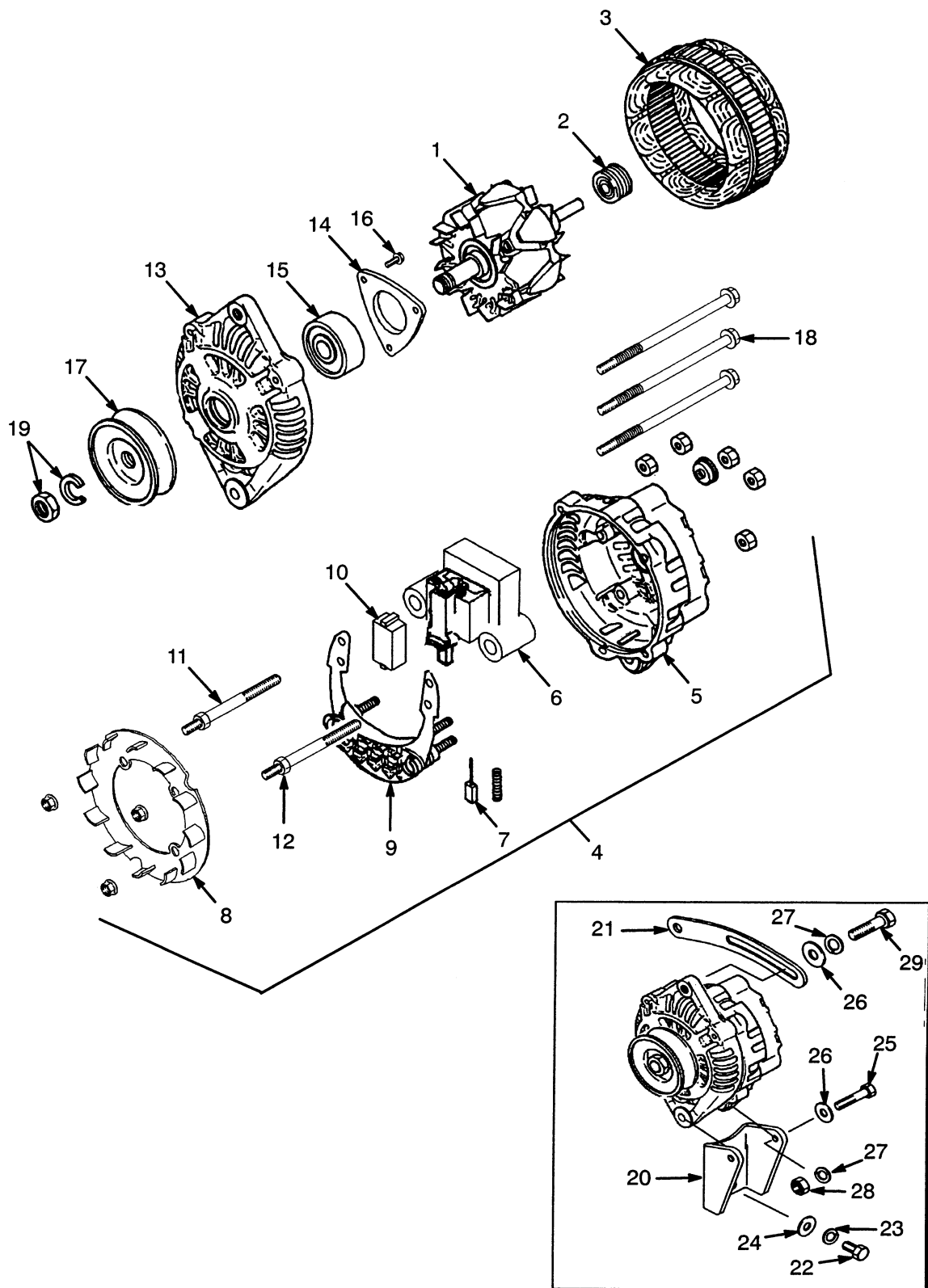


**ALTERNATOR**  
**GASOLINE AND LPG 3.0L**  
**FIRST USED ON S/N D177B-41710**

REF	PART NO.	NAME OF PART	QTY	REF	PART NO.	NAME OF PART	QTY
	1358911	Alternator .....	1	14	268356	Screw (Brush) .....	2
1	290303	Regulator .....	1	15	290369	Screw (Brush Holder) .....	1
2	1377067	Resistor .....	1	16	290370	Screw (Brush Holder) .....	1
3	274648	Boot .....	1	17	310081	Kit-Terminal .....	1
4	1377047	Rotor .....	1	18	344233	Terminal Relay .....	1
5	343029	Collar (DE) .....	1	19	1377052	Capacitor .....	1
6	1377048	Stator .....	1	20	1377051	Fan .....	1
7	310085	Frame (CE) .....	1	21	1377049	Frame .....	1
8	290508	Bearing (CE) .....	1	22	290509	Ball Bearing .....	1
9	223095	Diode Trio .....	1	23	1377053	Plate .....	1
10	343031	Rectifier Bridge .....	1	24	344234	Screw (Retaining Plate) .....	3
11	1344274	Nut .....	3	25	310088	Collar (DE) .....	1
12	343032	Screw & Washer .....	1	26	55580	Nut .....	1
13	290300	Brush Holder .....	1	27	128835	Lock Washer .....	1
13	1377050	Brush Spring .....	2	28	128852	Bolt .....	4

## ALTERNATOR (Figure 145)

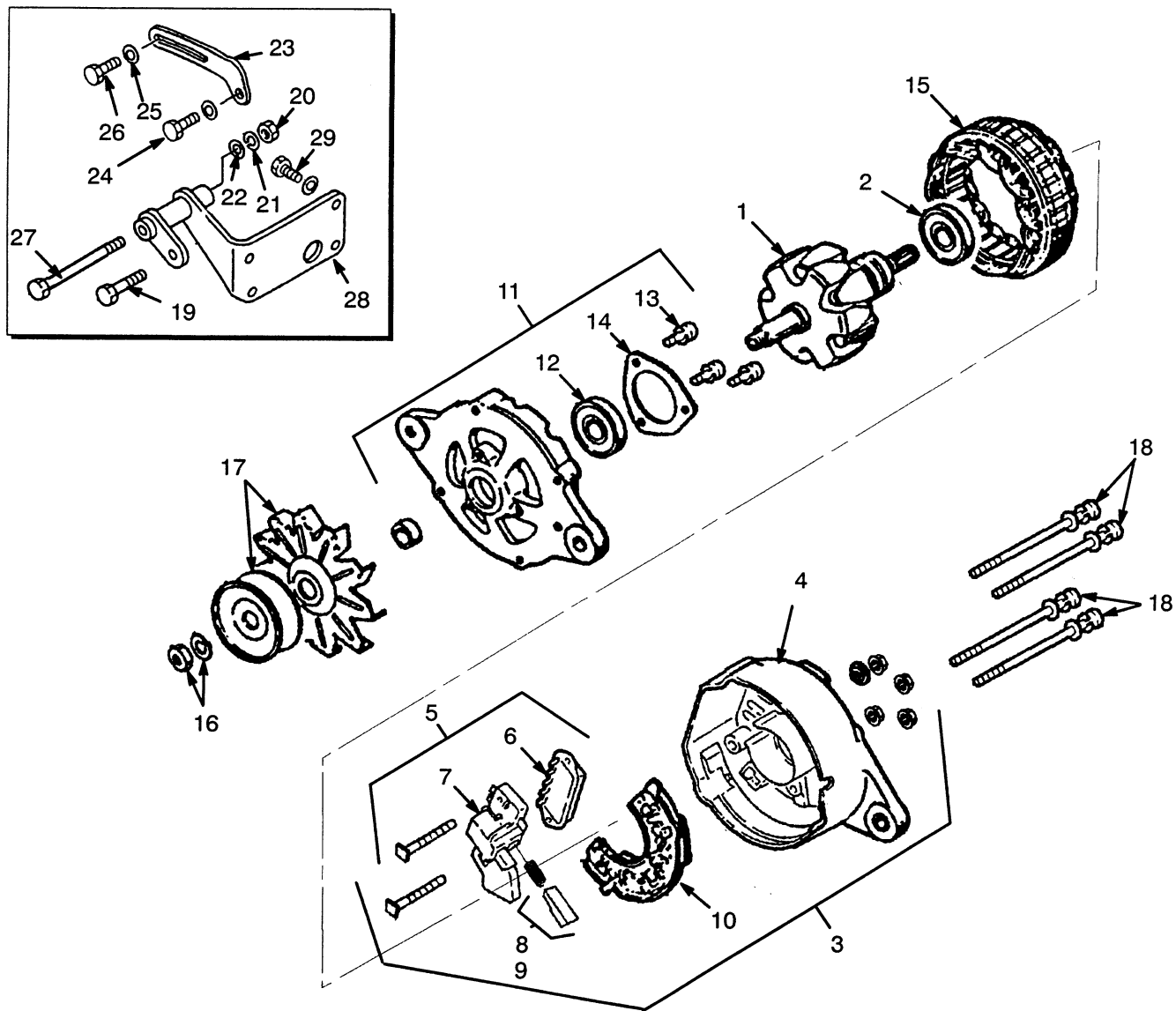
DIESEL 2.4L



**ALTERNATOR**  
**DIESEL 2.4L**

REF	PART NO.	NAME OF PART	QTY	REF	PART NO.	NAME OF PART	QTY
1	1361137	Alternator .....	1	15	1365257	Ball Bearing .....	1
1	1363018	Rotor .....	1	16	1365258	Kit-Screw .....	1
2	1363019	Ball Bearing .....	1	17	1365259	Pulley .....	1
3	1363020	Stator .....	1	18	1365260	Bolt .....	3
4	1363021	Housing Assembly (Rear) .....	1	19	1365261	Nut .....	1
5	1363022	Housing (Rear) .....	1	20	1361138	Bracket .....	1
6	1363023	Regulator .....	1	21	1361539	Strap .....	1
7	1363024	Kit-Brush .....	2	22	287503	Hex Head Bolt .....	2
8	1365250	Fan .....	1	23	292682	Lockwasher .....	2
9	1365251	Diode .....	1	24	320159	Washer .....	2
10	1365252	Condenser .....	1	25	292508	Hex Head Bolt .....	2
11	1365253	Bolt .....	1	26	320157	Washer .....	3
12	1365254	Bolt .....	1	27	292681	Lockwasher .....	3
13	1365255	Housing Assembly (Front) .....	1	28	239503	Nut .....	2
14	1365256	Retainer .....	1	29	136749	Hex Head Bolt .....	1

## ALTERNATOR (Figure 146) DIESEL 2.8L AND 3.1L



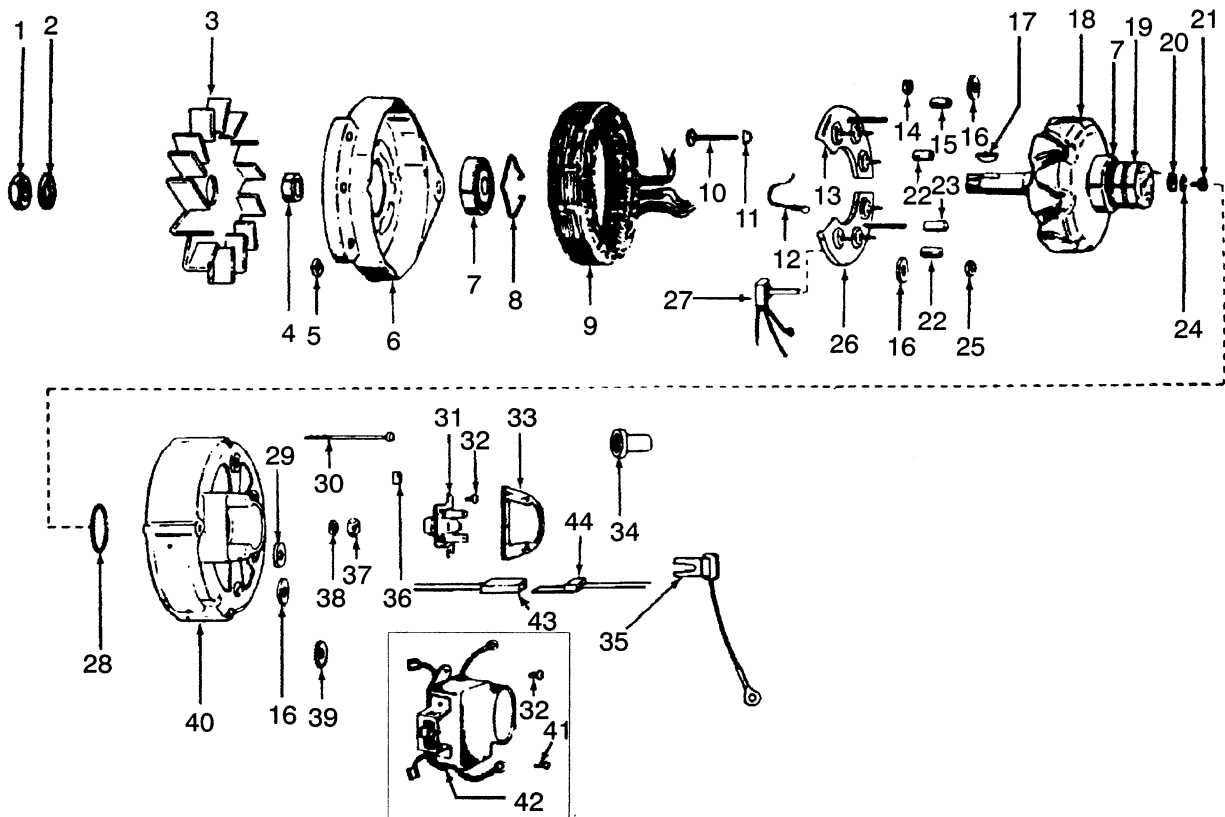
**ALTERNATOR**  
**DIESEL 2.8L AND 3.1L**

REF	PART NO.	NAME OF PART	QTY	REF	PART NO.	NAME OF PART	QTY
	1360815	Alternator .....	1	18	1300892	Bolt .....	4
1	1362459	Rotor .....	1	19 <b>a</b>	324248	Bolt .....	1
2	1362460	Ball Bearing .....	1	19 <b>b</b>	1338754	Bolt .....	1
3	1362462	Cover (Rear) .....	1	20	239503	Nut .....	1
4	1362463	Cover .....	2	21	292681	Lockwasher .....	1
5	1362464	Regulator .....	1	22	296418	Washer .....	1
6	1362465	Regulator .....	1	23	1338473	Adjusting Strap .....	1
7	1362467	Brush Assembly .....	1	24 <b>a</b>	1338456	Bolt .....	1
8	1374972	Packing .....	1	24 <b>b</b>	1338456	Bolt .....	1
9	1362468	Brush Set .....	1	25	324434	Washer .....	1
10	1362466	Diode .....	1	26 <b>a</b>	1338456	Bolt .....	1
11	1362469	Cover (Front) .....	1	26 <b>b</b>	1338754	Bolt .....	1
12	1362471	Ball Bearing .....	1	27	324248	Bolt .....	1
13	1374973	Screw Kit .....	1	28	1361548	Bracket .....	1
14	1362470	Retainer .....	1	29	1333587	Bolt .....	4
15	1362461	Stator .....	1				
16	1363000	Nut .....	1	<b>a</b>	2.8L		
17	1362472	Pulley .....	1	<b>b</b>	3.1L		

## ALTERNATOR (Figure 147)

### TYPES GS, LPS, AND DS

### LAST USED ON S/N D177B-42119



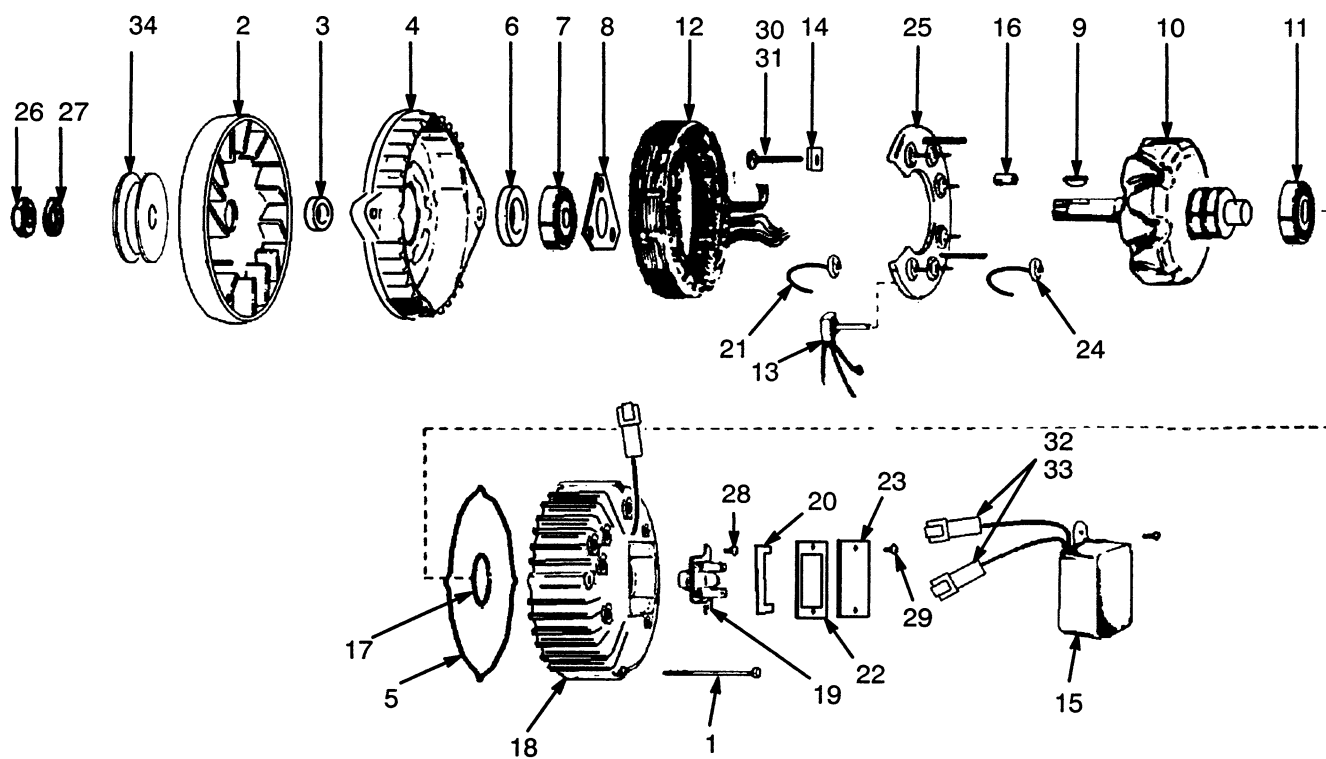
**ALTERNATOR**  
**TYPES GS, LPS, AND DS**  
**LAST USED ON S/N D177B-42119**

REF	PART NO.	NAME OF PART	QTY	REF	PART NO.	NAME OF PART	QTY
	388501	Alternator .....	1	23	382643	Sleeve .....	1
1	248147	Nut .....	1	24	15152	Lockwasher .....	3
2	246943	Lockwasher .....	1	25	382646	Nut .....	2
3	248127	Fan .....	1	26	382636	Diode (+) .....	1
4	248135	Fan Spacer .....	1	27	382639	Diode (Field) .....	1
5	248148	Square Nut .....	3	28	382634	Retainer .....	1
6	....	Housing .....	1	29	382642	Washer .....	2
7	248128	Bearing .....	2	30	382641	Bolt .....	4
8	248129	Retainer .....	1	31	248134	Brush .....	1
9	382633	Stator .....	1	32	387488	Screw .....	4
10	255073	Bolt .....	1	33	382637	Gasket .....	1
11	226589	Insulator .....	1	34	255073	Bolt .....	2
12	382638	Cable .....	1	35	382647	Capacitor .....	1
13	382635	Diode (-) .....	1	36	248145	Locknut .....	3
14	15052	Nut .....	4	37	248146	Nut .....	2
15	382644	Sleeve .....	1	38	246942	Lockwasher .....	2
16	248143	Washer .....	5	39	382642	Insulator .....	1
17	246944	Key .....	1	40	.....	Housing .....	1
18	382632	Rotor .....	1	41	18082	Capscrew .....	2
19	248137	Slip Ring .....	1	42	382640	Regulator .....	1
20	....	Washer .....	3	43	181046	Connector .....	1
21	248149	Screw .....	1	44	134812	Connector .....	1
22	248141	Sleeve .....	1				



## ALTERNATOR (Figure 148)

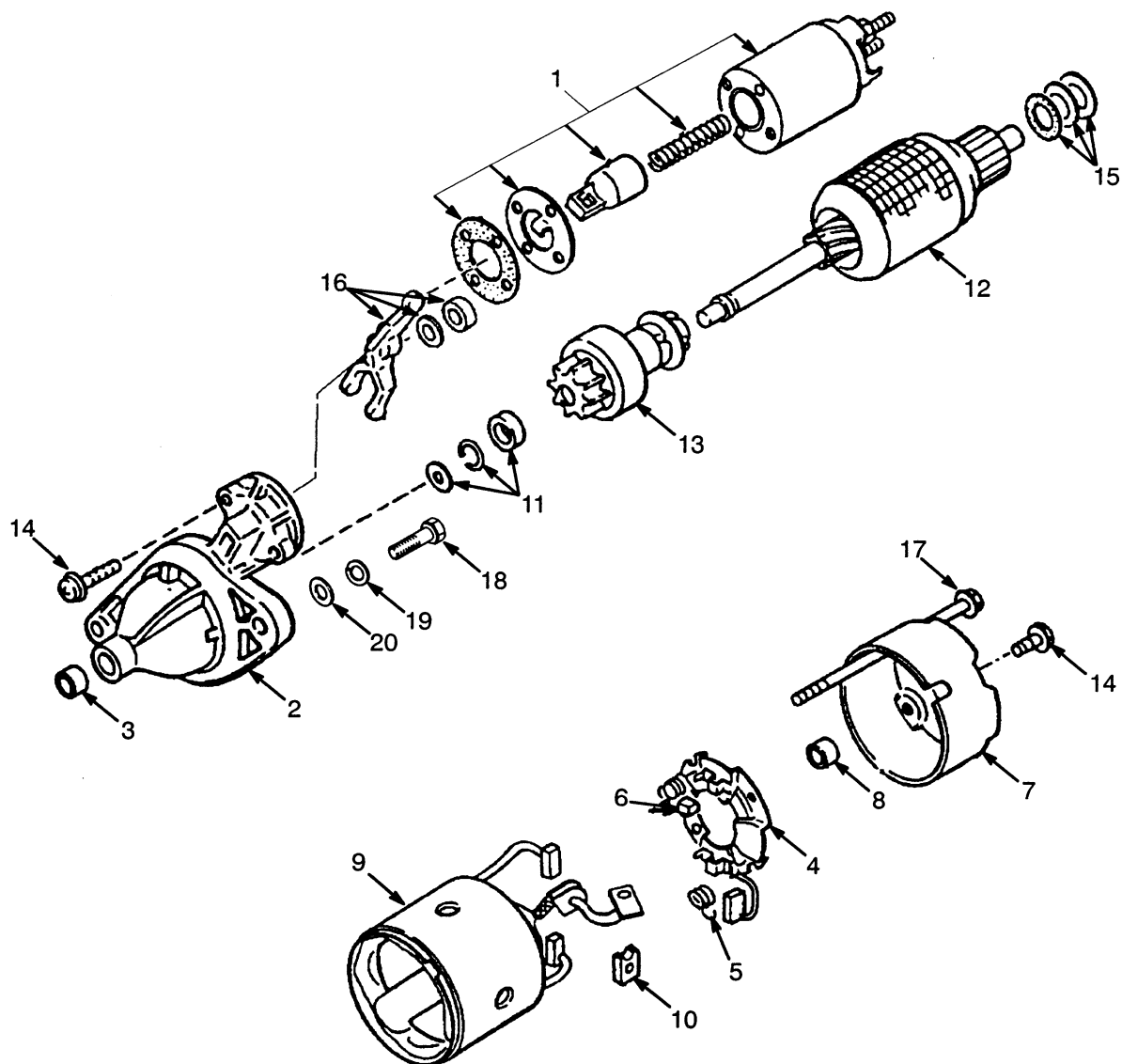
TYPES GS, LPS, AND DS  
FIRST USED ON S/N D177B-42120



**ALTERNATOR**  
**TYPES GS, LPS, AND DS**  
**FIRST USED ON S/N D177B-42120**

REF	PART NO.	NAME OF PART	QTY	REF	PART NO.	NAME OF PART	QTY
	1394002	Alternator (Altered) .....	1	18	295802	Rear Housing .....	1
	1394003	Alternator .....	1	19	2022534	Brush Assembly .....	1
1	1453364	Bolt .....	4	20	2022535	Insulation .....	1
2	225673	Fan .....	1	21	226584	Diode (+) .....	1
3	1453352	Spacer .....	1	22	1453387	Gasket .....	1
4	1453351	Front Housing .....	1	23	2022538	Brush Cover .....	1
5	226582	Gasket .....	1	24	226583	Diode (-) .....	1
6	1453358	Seal .....	1	25	226578	Heat Sink .....	1
7	248128	Front Bearing .....	1	26	1453375	Nut .....	1
8	226576	Retainer .....	1	27	1453385	Lockwasher .....	1
9	1453354	Woodruff Key .....	1	28	1453377	Screw .....	2
10	1371208	Rotor .....	1	29	1453379	Screw .....	2
11	386071	Rear Bearing .....	1	30	1453362	Bolt (1.38 in) .....	1
12	1371209	Stator .....	1	31	1453363	Bolt (1.75 in) .....	1
13	2022532	Diode (Field) .....	1	32	181045	Connector .....	1
14	1371214	Insulation .....	1	33	181046	Connector .....	1
15	1453386	Voltage Regulator .....	1	34	.....	Pulley .....	1
16	1371212	Sleeve .....	1			☞ Figure 137, Figure 138	
17	1371211	Retainer .....	1				

## STARTER (Figure 149) GASOLINE AND LPG 2.0L



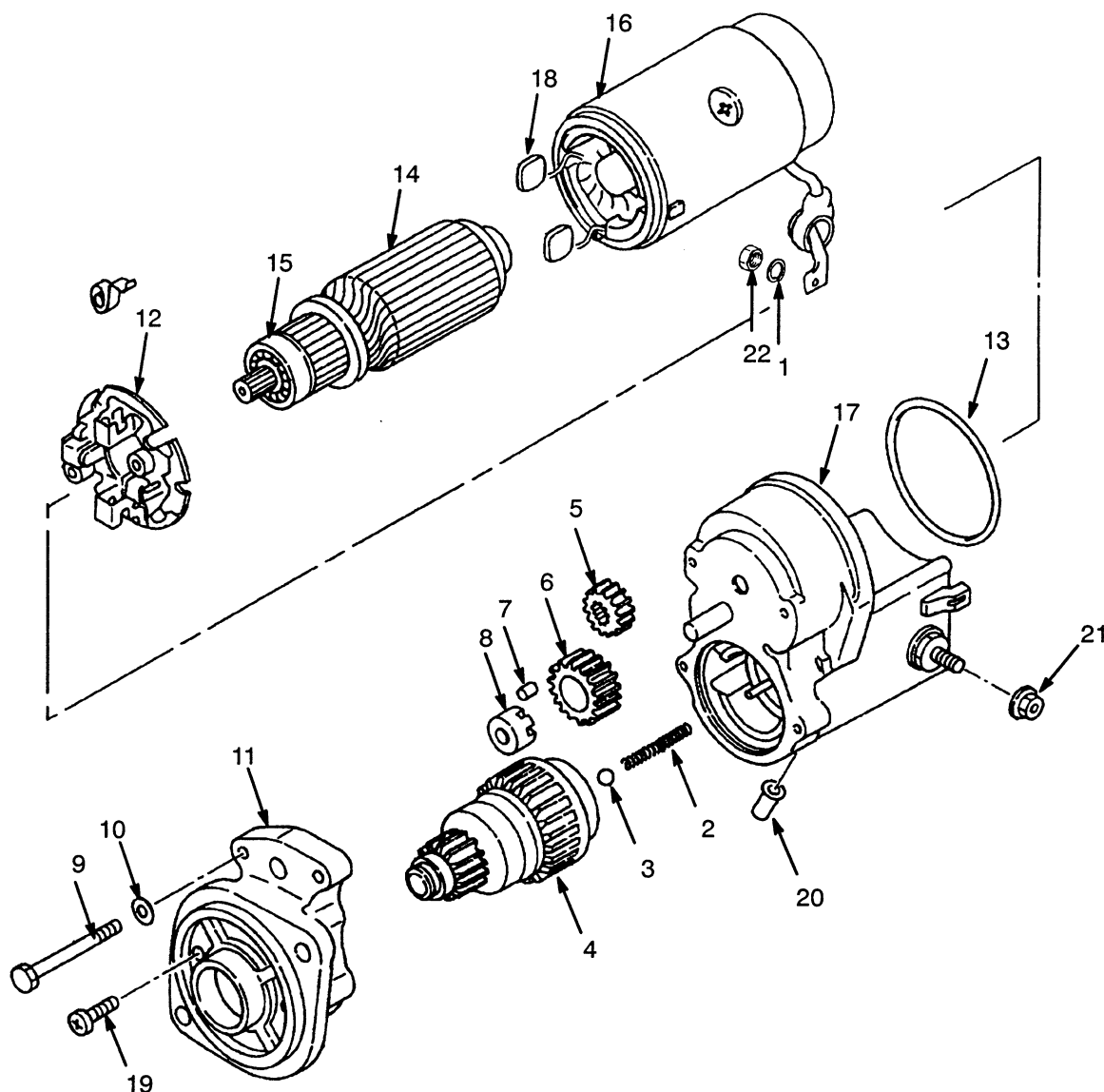
REF	PART NO.	NAME OF PART	QTY
a	1362069	Starter .....	1
1	1368862	Switch .....	1
2	1368849	Bracket .....	1
3	1368858	Sleeve .....	1
4	1368860	Brush Holder .....	1
5	326889	Brush Spring .....	3
6	1368861	Brush .....	1
7	1368857	Bracket .....	1
8	1368859	Sleeve .....	1
9	1368848	Yoke .....	1
10	1368863	Brush .....	2
11	1368850	Stopper Set .....	1

REF	PART NO.	NAME OF PART	QTY
12	1368851	Armature .....	1
13	1368852	Clutch .....	1
14	1368853	Screw Kit .....	1
15	1368854	Washer Kit .....	1
16	1368855	Lever .....	1
17	1368856	Bolt .....	2
18	1356103	Bolt .....	2
19	292682	Lockwasher .....	2
20	320159	Washer .....	2

a Service 1362069 with 2034921

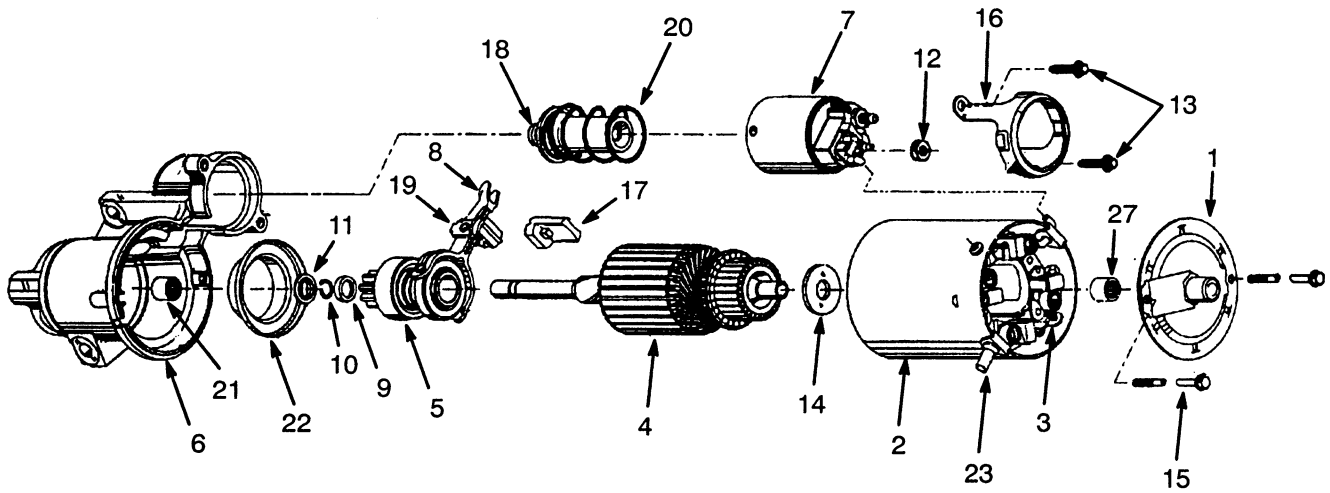
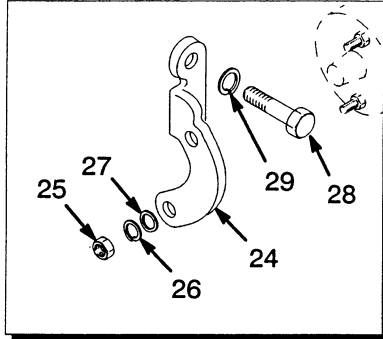
Note: Service 2034921 As A Complete Assembly

**STARTER (Figure 150)**  
**DIESEL 2.4L, 2.8L AND 3.1L**



REF	PART NO.	NAME OF PART	QTY	REF	PART NO.	NAME OF PART	QTY
	1347064	Starter .....	1	12	1357176	Brush Holder .....	1
1	292681	Lockwasher .....	1	12	326986	Spring .....	4
2	324636	Spring .....	1	13	1357049	Washer .....	1
3	324637	Ball .....	1	14	1367100	Armature .....	1
4	324638	Drive .....	1	15	1367102	Bearing .....	1
5	324632	Pinion .....	1	16	1357046	Housing .....	1
6	1357048	Gear .....	1	17	1367103	Solenoid .....	1
7	324634	Roller .....	5	18	1367101	Brush .....	2
8	324635	Retainer .....	1	19	1367106	Bolt .....	2
9	1357179	Screw .....	2	20	1367107	Plug .....	1
10	1357178	Washer .....	2	21	1367104	Nut .....	1
11	1357180	Housing .....	1	22	324314	Nut .....	1

## STARTER (Figure 151) GASOLINE AND LPG 2.2L AND 3.0L



## STARTER

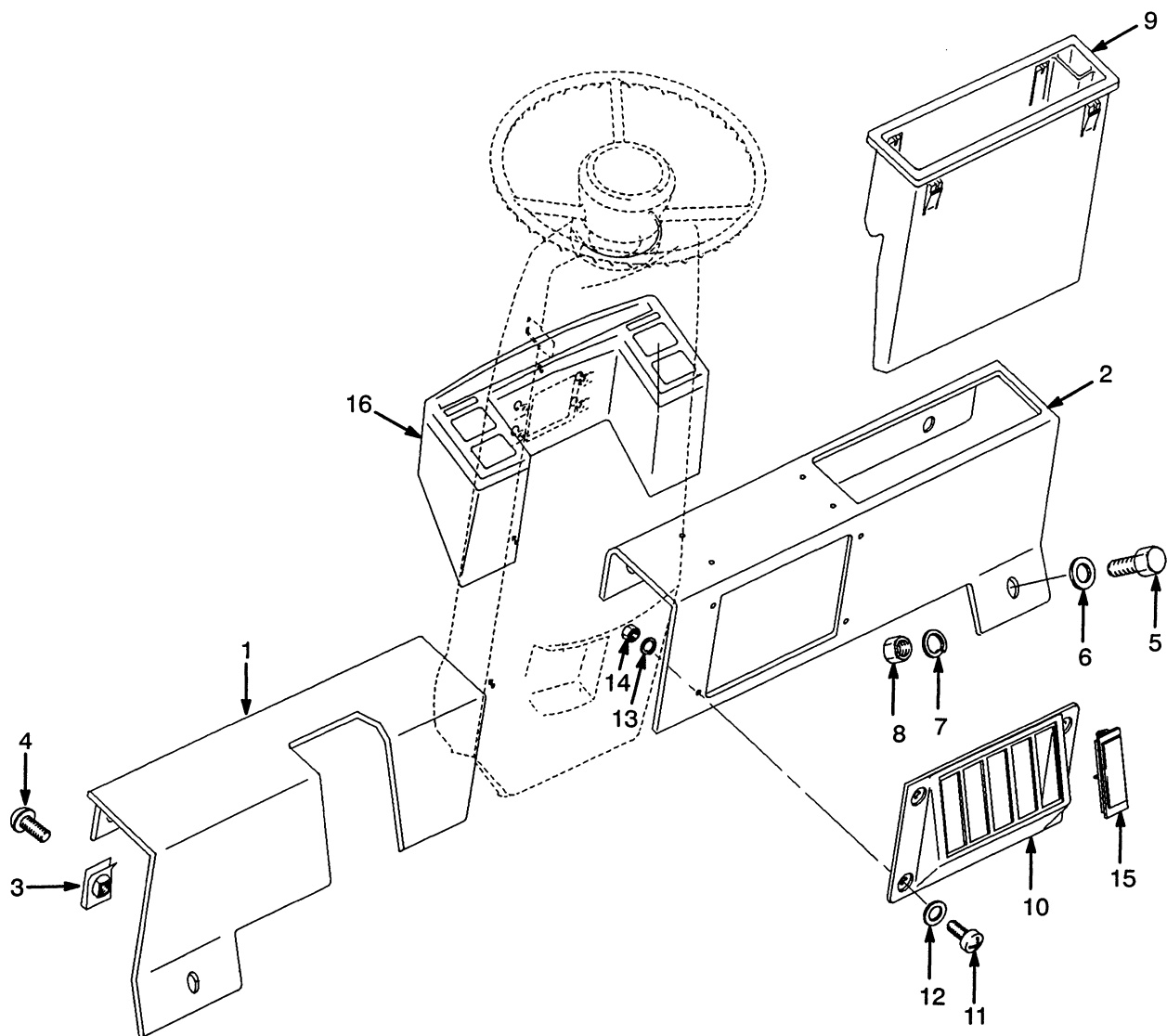
### GASOLINE AND LPG 2.2L AND 3.0L

**KEY:**

A: Gasoline & LPG 2.2L  
B: Gasoline & LPG 3.0L

REF	PART NO.	NAME OF PART	QTY		REF	PART NO.	NAME OF PART	QTY	
			A	B				A	B
	a	1358859 Starter .....	1	..	15	ac	1362084 Thru Bolt .....	..	2
	a	1374621 Starter .....	..	1	16	ac	1358874 Solenoid Clamp .....	1	1
	bc	1450122 Starter .....	1	..	17	ac	1358875 Plug .....	1	1
	bc	1391321 Starter .....	..	1	18	ac	1358876 Plunger .....	1	1
	d	1457048 Starter .....	1	..	19	ac	1358877 Retainer .....	1	1
	d	1457047 Starter .....	..	1	20	ac	1358878 Spring .....	1	1
1	ac	1358861 CE Frame .....	1	..	21	ac	1358862 Bearing .....	..	2
1	ac	1383999 CE Frame .....	..	1	22	ac	1384005 Shield .....	..	2
2	ac	1358863 Frame & Brushes .....	1	..	23	ac	1384003 Tube .....	..	1
2	ac	1384037 Frame & Brushes .....	..	1	24	ac	1338283 Bracket .....	1	..
3	ac	1358864 Grommet .....	1	1	25	ac	15052 Nut .....	2	..
4	ac	1358865 Armature .....	1	..	26	ac	15152 Washer .....	2	..
4	ac	1384000 Armature .....	..	1	27	ac	197067 Washer .....	2	..
5	ac	1358866 Drive Gear .....	1	1	28	ac	293631 Capscrew .....	2	..
6	ac	1358867 Housing (DE) .....	1	..	29	ac	292682 Washer .....	6	..
6	ac	1384001 Housing (DE) .....	..	1					
7	ac	1358868 Solenoid Switch .....	1	1	a	Last Used On Date Code 9/10/96			
8	ac	1358869 Shift Lever .....	1	1	b	First Used On Date Code 9/10/96			
9	ac	97499 Collar .....	1	1	c	Last Used On Date Code 12/12/97			
10	ac	97498 Retainer Ring .....	1	1	d	First Used On Date Code 12/12/97			
11	ac	97497 Washer .....	1	1		Note: Service 1391321 And 1450122 As Complete Assemblies			
12	ac	1358870 Nut .....	1	1		Note: Service 1391321 With 1457047 And Bracket 1457120			
13	ac	1358871 Screw .....	2	2					
14	ac	1358872 Washer .....	1	1					
15	ac	1358873 Thru Bolt .....	2	2					

## INSTRUMENT PANEL (Figure 152)



REF	PART NO.	NAME OF PART	QTY
1	1365876	Instrument Panel .....	1
2	1365877	Instrument Panel .....	1
3	1350282	Retainer .....	4
4	369242	Capscrew .....	4
5	136681	Capscrew .....	1
6	320157	Washer .....	1
7	292681	Lockwasher .....	1
8	239503	Nut .....	1
9	1338286	Information Case .....	1

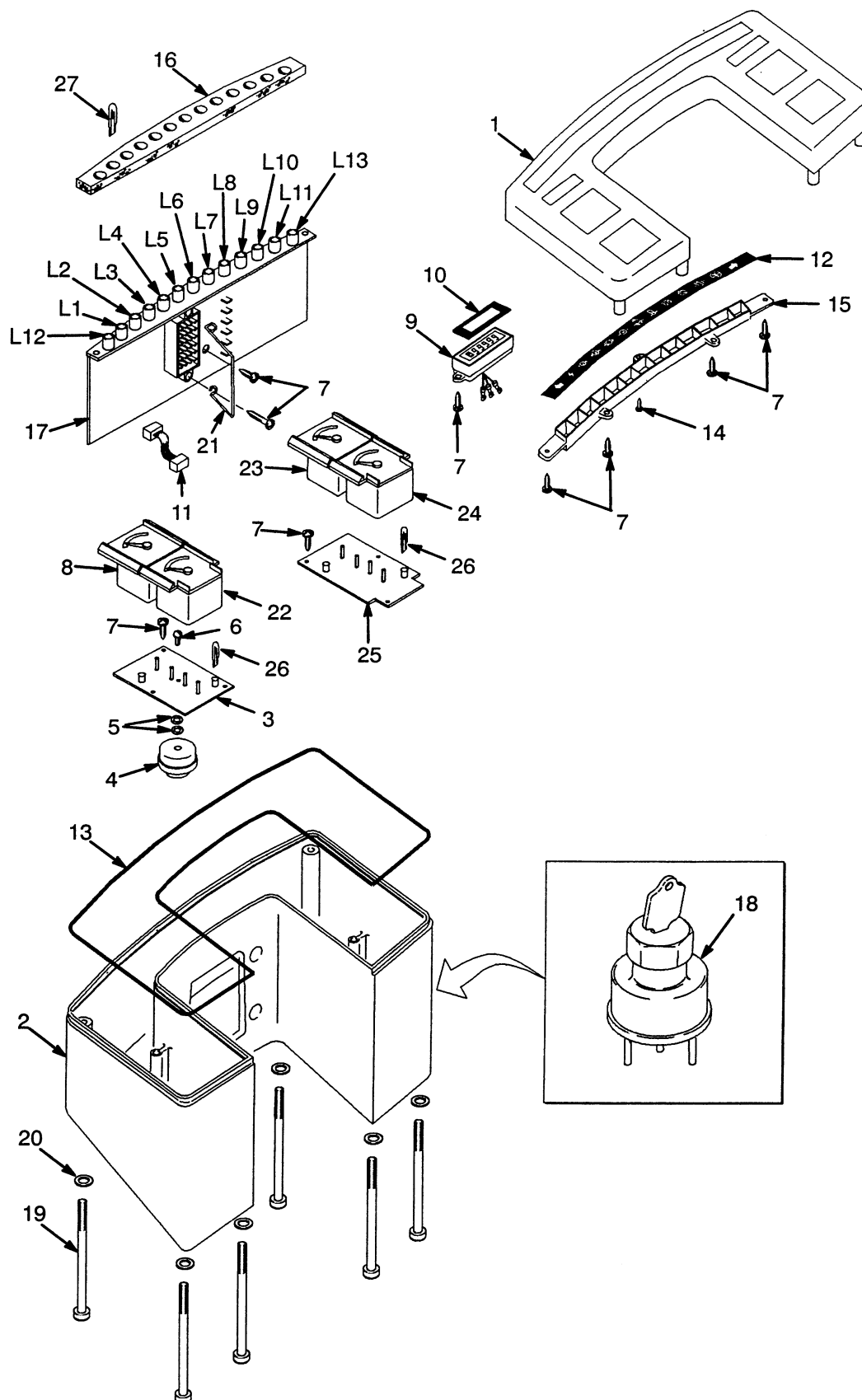
REF	PART NO.	NAME OF PART	QTY
10	1339637	Bezel .....	1
11	1337196	Screw .....	4
12	320154	Washer .....	4
13	292678	Lockwasher .....	4
14	292667	Nut .....	4
15	376949	Cover .....	5
16		..... Instrument Cluster .....	1

Figure 153

## This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.



## INSTRUMENT CLUSTER (Figure 153)



## INSTRUMENT CLUSTER

PART NO.	DESCRIPTION	INCLUDES REF NO.'S	REF NO. 26 QTY	QTY	REF NO. 27 & LOCATION
1335975	<sup>c</sup> Instrument Cluster-Gasoline	1-22, 26 & 27	2	7	L1-L6, L9
1335976	<sup>c</sup> Instrument Cluster-LPG	1-21, 26 & 27	1	7	L1-L6, L10
1335977	<sup>c</sup> Instrument Cluster-Diesel	1-22, 26 & 27	2	8	L1-L8
1335978	<sup>b</sup> Instrument Cluster-Gasoline	1-27	4	10	L1-L6, L9, L11-L13
1335979	<sup>b</sup> Instrument Cluster-LPG	1-21, 23-27	3	10	L1-L6, L10-L13
1335980	<sup>b</sup> Instrument Cluster-Diesel	1-27	4	11	L1-L8, L11-L13
1343612	<sup>c</sup> Instrument Cluster-Gasoline	1-22, 26, & 27	2	8	L1-L5, L9, L11-L13
1343613	<sup>c</sup> Instrument Cluster-LPG	1-21, 26, & 27	1	8	L1-L5, L10, L11-L13
1343614	<sup>c</sup> Instrument Cluster-Diesel	1-22, 26, & 27	2	9	L1-L5, L7-L8, L11-L13

<sup>b</sup> Includes Optional Gauges    <sup>c</sup> Includes Standard Gauges

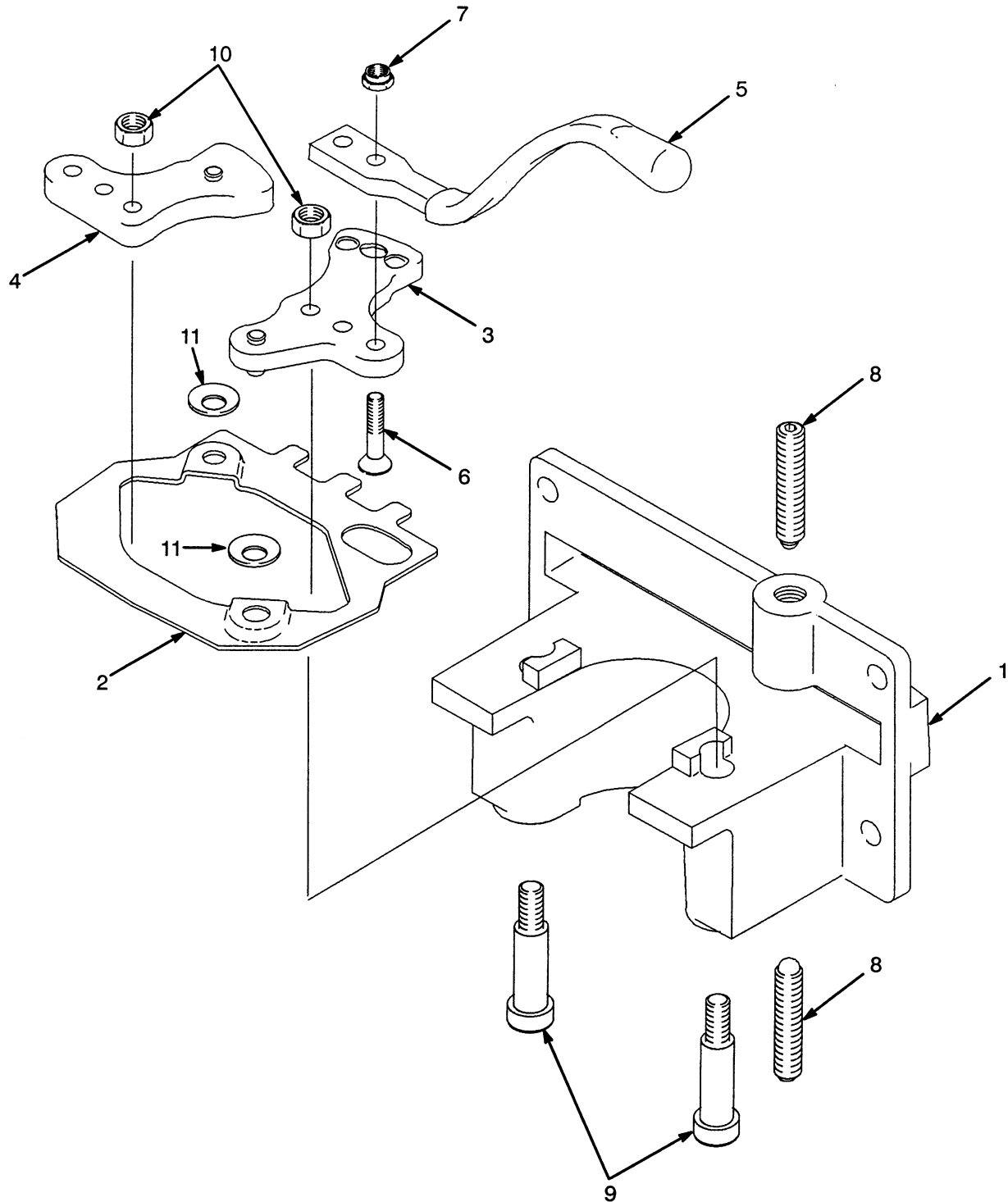
**KEY:**

**A: Optional Gauges**  
**B: Standard Gauges**

REF	PART NO.	NAME OF PART	QTY		REF	PART NO.	NAME OF PART	QTY	
			A	B				A	B
<sup>a</sup>	.....	Instrument Cluster .....	1	1	15	1354787	Warning Lamp Housing .....	1	1
1	1354775	Cover-Top .....	1	1	16	1354788	Foam Gasket .....	1	1
2	1354776	Case .....	1	1	17	1354806	Circuit Board .....	1	1
3	1354049	Circuit Board (LH) .....	1	1	18	1337114	Ignition Switch .....	1	1
4	1354804	Buzzer .....	1	1	19	1453153	Screw Kit .....	1	1
5	1354780	Washer (Fibre) .....	1	1	20	320154	Washer .....	8	8
6	189756	Screw .....	1	1	21	1358858	Clip .....	1	1
7	227131	Screw .....	17	14	22	1354777	Fuel Gauge .....	1	1
8	1354778	Water Temperature Gauge ..	1	1	23	1354792	Oil Gauge .....	1	1
9	1354783	Hourmeter .....	1	1	24	1354793	Voltmeter Gauge .....	1	1
10	1354782	Gasket .....	1	1	25	1354807	Circuit Board (RH) .....	1	1
11	1354805	Jumper Harness .....	1	1	26 <sup>a</sup>	1354796	Lamp .....	..	..
12	1354784	Warning Lamp Filter .....	1	1	27 <sup>a</sup>	1357367	Lamp .....	..	..
13	1354785	Gasket .....	1	1					
14	1354786	Screw .....	1	1					

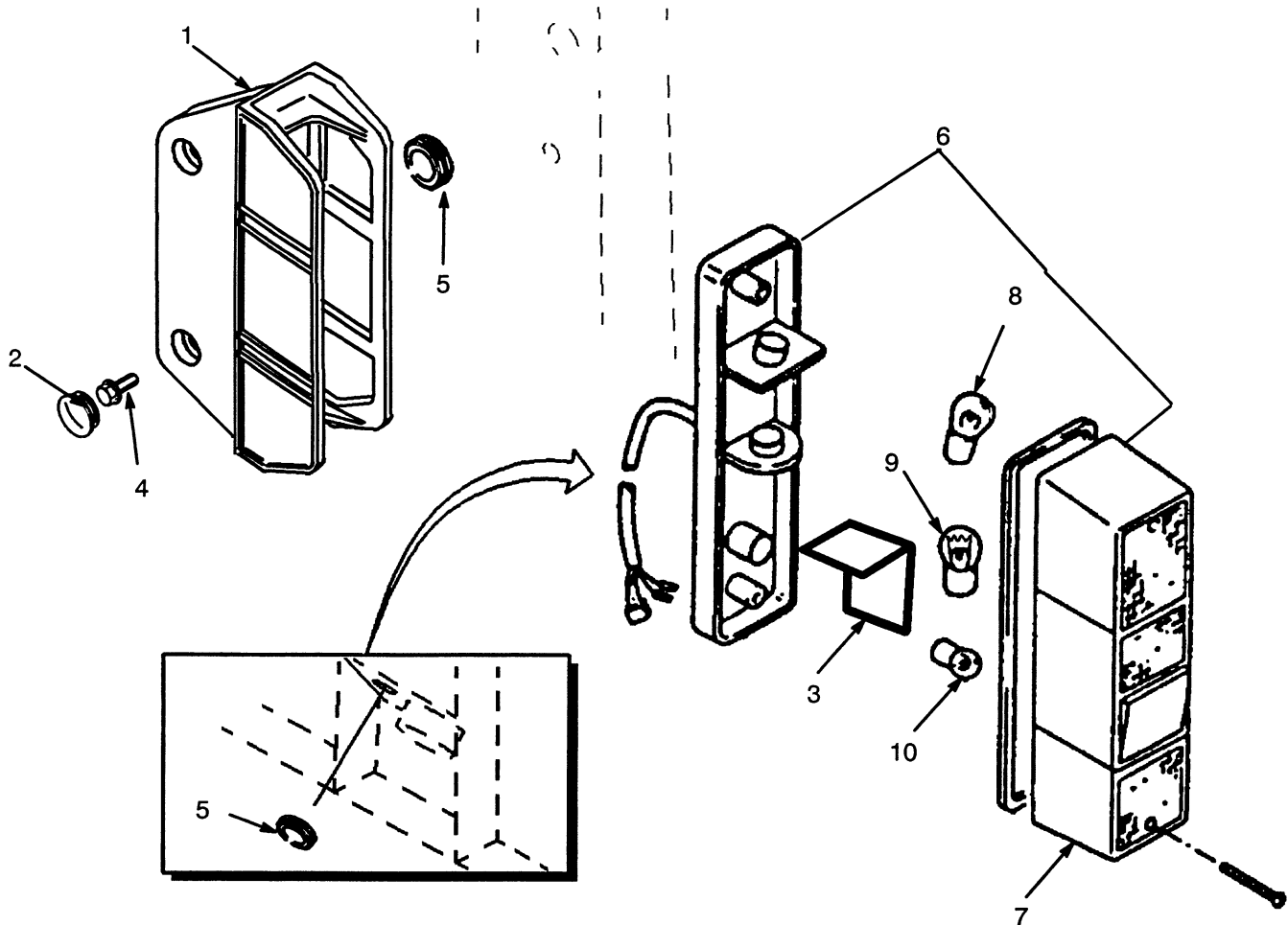
<sup>a</sup> ☞ Table Above

## SHIFT LEVER (Figure 154)



REF	PART NO.	NAME OF PART	QTY	REF	PART NO.	NAME OF PART	QTY
	1347004	Shift Lever Assembly .....	1	6	296205	Capscrew .....	2
1	1343577	Base .....	1	7	302398	Nut .....	2
2	1343578	Link .....	1	8	1338291	Spring Plunger .....	2
3	1343579	Crank .....	1	9	1343594	Bolt .....	2
4	1343598	Crank .....	1	10	136687	Nut .....	2
5	1343593	Shift Lever .....	1	11	1354300	Spring Washer .....	4

**LIGHTS (Figure 155)**



REF	PART NO.	NAME OF PART	QTY
1 a	1354105	Bracket .....	2
1 b	1450293	Bracket .....	2
1 c	878152	Bracket .....	2
2	1450356	Plug .....	2
3	1375173	Shield .....	2
4	316678	Screw .....	4
5	1367639	Bushing .....	3
6 a	1343887	Light Assembly .....	2
6 b	1376749	Light Assembly .....	2
7 a	1344798	Lens .....	1
7 b	1380757	Lens (Amber) .....	1

REF	PART NO.	NAME OF PART	QTY
7 b	1376439	Lens (Clear) .....	1
7 b	1376440	Lens (Red) .....	1
8 a	207495	Bulb .....	1
8 b	1302258	Bulb .....	2
9	177521	Bulb (12 Volt) .....	1
10 a	1344799	Bulb .....	1

- a Last Used On S/N D177B-3080  
b First Used On S/N D177B-3081  
c With Steel Cab Kit 895973

## ELECTRICAL CONNECTORS (Figure 156) LESS TERMINALS

<p>1300231-TERMINAL(10-14GA) 381847-TERMINAL (14-16GA)</p> <p>381846 FUSEHOLDER</p>	<p>42958-CONNECTOR</p>	<p>148660 CONNECTOR</p>	<p>256291-CONN. BODY</p>
<p>148657-CONN. BODY (F)</p> <p>121384-CONN. BODY (M)</p>	<p>181045-CONN. BODY (F)</p> <p>181046-CONN. BODY (M)</p>	<p>345474-CONN. BODY</p>	<p>126381-CONN. BODY</p>
<p>181047-CONN. BODY (F)</p> <p>181048-CONN. BODY (M)</p>	<p>148658-CONN. BODY (F)</p> <p>148659-CONN. BODY (M)</p>	<p>329432-CONN. BODY (F)</p> <p>245996-CONN. BODY (M)</p>	<p>1350575-CONN. BODY (F)</p> <p>346330-CONN. BODY (M)</p>
<p>152728-CONN. BODY (F)</p> <p>126319-CONN. BODY (M)</p>	<p>181049-CONN. BODY (F)</p> <p>181050-CONN. BODY (M)</p>	<p>1328311-"Y"-PLUG</p>	<p>1328309-PLUG (DASH DISPLAY)</p>
<p>181051-CONN. BODY (F)</p> <p>181052-CONN. BODY (M)</p>	<p>154476-CONN. BODY (F)</p> <p>154475-CONN. BODY (M)</p>	<p>144011-CONNECTOR SET</p>	<p>370728-CONN. BODY (IGNITION SWITCH)</p>
<p>181053-CONN. BODY (F)</p> <p>181054-CONN. BODY (M)</p>	<p>1308549-ELEC. FTG. PLUG .25 (6.4)</p>	<p>1308544-ELEC. FTG. PLUG .37 (9.4)</p>	<p>134813-CONN. BODY (F)</p> <p>134814-CONN. BODY (M)</p>
<p>164431-CONNECTOR</p>	<p>164433-CONNECTOR</p>	<p>192529-CONNECTOR (F)</p> <p>192528-CONNECTOR (M)</p>	<p>169321-CONNECTOR (F)</p> <p>169320-CONNECTOR (M)</p>
<p>164436-CONNECTOR (F)</p> <p>164435-CONNECTOR (M)</p>	<p>257252-CONNECTOR (M)</p> <p>257253-CONNECTOR (M)</p>	<p>248536-CONNECTOR (F)</p> <p>248535-CONNECTOR (M)</p>	

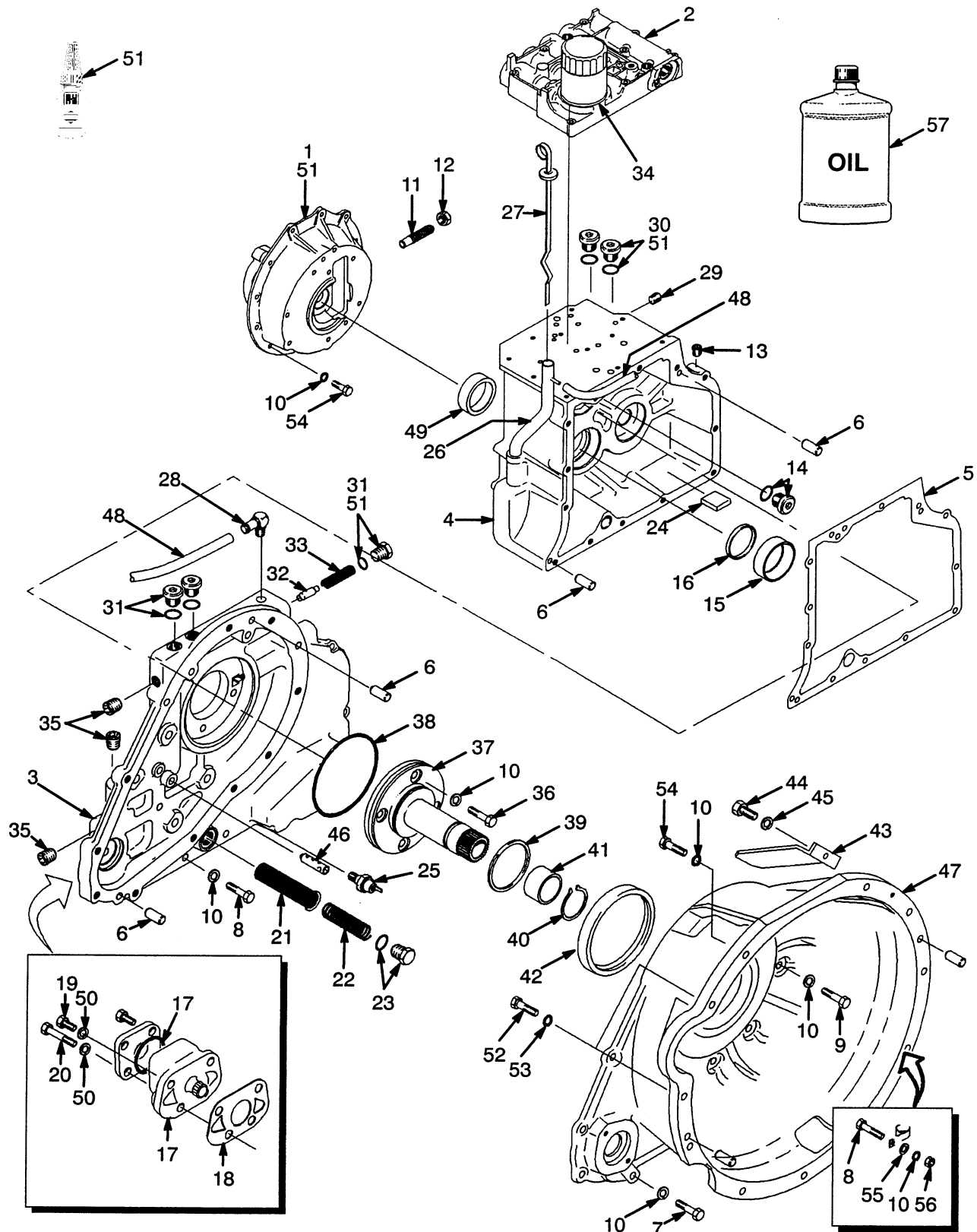
---

## TRANSMISSION

CLUTCH FORWARD AND REVERSE (Figure 159) LAST USED ON TRANSMISSION S/N T51,T52,T53,T78 .....	Page 290
CLUTCH-FORWARD AND REVERSE (Figure 160) FIRST USED ON TRANSMISSION S/N T80M-1501, T81M-1501,T83M-1501 .....	Page 292
CONTROL VALVE (Figure 163) TRANSMISSION .....	Page 298
DIFFERENTIAL (Figure 161) LAST USED ON TRANSMISSION S/N T51,T52,T53,T78 .....	Page 294
DIFFERENTIAL (Figure 162) FIRST USED ON TRANSMISSION S/N T80M-1501, T81M-1501,T83M-1501 .....	Page 296
DRIVE AXLE (Figure 167) .....	Page 304
PUMP DRIVE (Figure 164) LAST USED ON TRANSMISSION S/N T80M-1644 .....	Page 300
PUMP DRIVE (Figure 165) FIRST USED ON S/N T80M-1645 .....	Page 301
TRANSMISSION COOLING (Figure 166) .....	Page 303
TRANSMISSION (Figure 157) LAST USED ON TRANSMISSION S/N T51,T52,T53,T78 .....	Page 286
TRANSMISSION (Figure 158) FIRST USED ON TRANSMISSION S/N T80M-1501, T81M-1501,T83M-1501 .....	Page 288

## TRANSMISSION (Figure 157)

LAST USED ON TRANSMISSION S/N T51,T52,T53,T78



## TRANSMISSION

### LAST USED ON TRANSMISSION S/N T51,T52,T53,T78

#### KEY:

A: Gasoline And LPG 2.0L/2.2L . Including Diesel 2.4L, 2.5L

B: Diesel 3.0L And 3.1L

C: GM Gasoline And LPG 3.0L

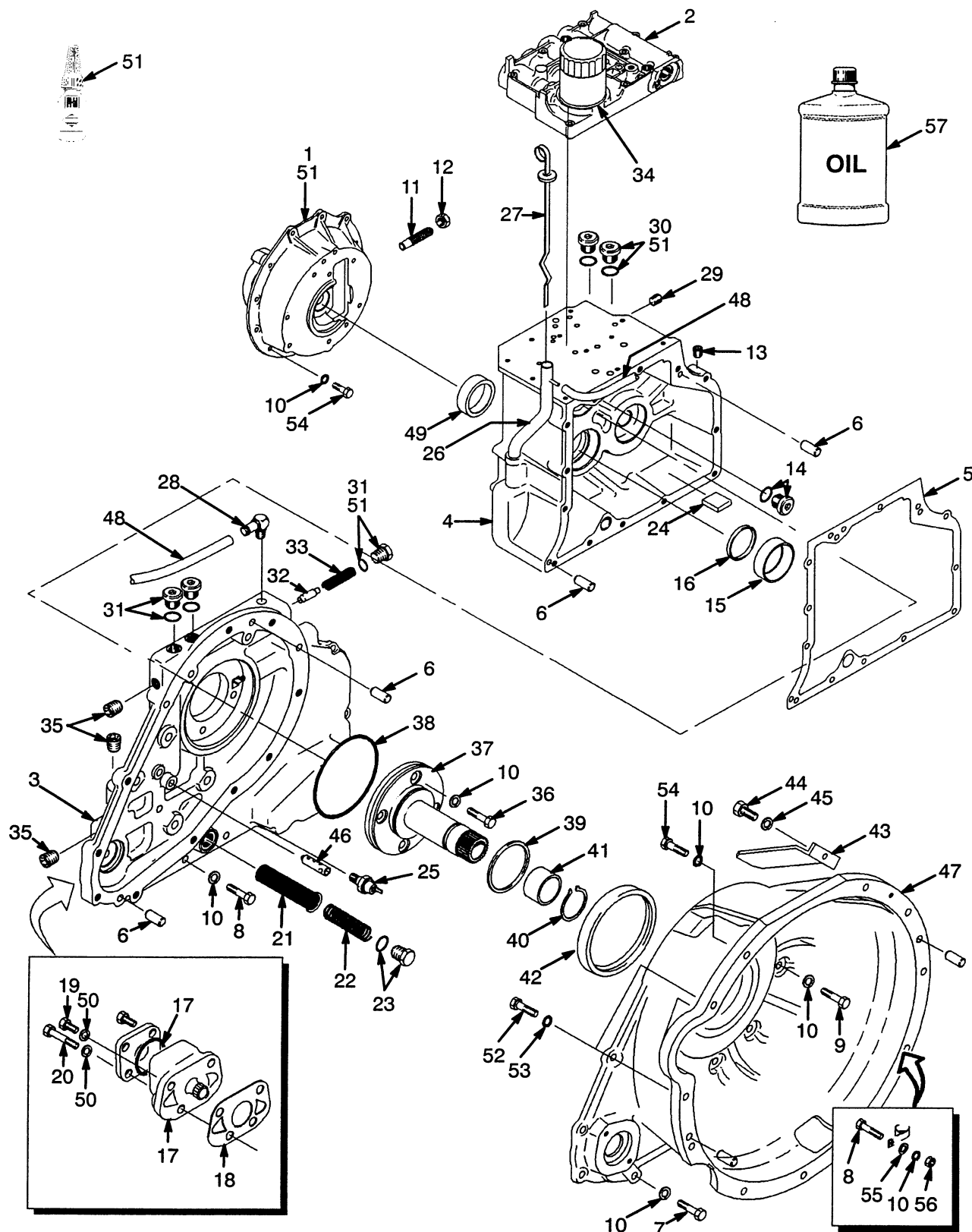
D: Gasoline And LPG 2.0L And 2.2L (Transmission First Used D177B-41754) Including Diesel 2.6L

QTY							QTY						
REF	PART NO.	NAME OF PART	A	B	C	D	REF	PART NO.	NAME OF PART	A	B	C	D
e	1337069	Transmission (T51)	1	..	..	..	32	287472	Spool	1	1	1	1
f	1391543	Transmission (T51)	1	..	..	..	33	1334786	Spring	1	1	1	1
e	1337070	Transmission (T53)	1	..	..	..	34	d 1328692	Oil Filter	1	1	1	1
f	1391545	Transmission (T53)	1	..	..	..	35	15314	Fitting	3	3	3	3
a	1356309	Transmission (T52)	..	1	..	..	36	136985	Capscrew	4	4	4	4
b	1375193	Transmission (T52)	..	1	..	..	37	1334785	Stator	1	1	..	..
g	1391544	Transmission (T52)	..	1	..	..	37	g 1394923	Stator	1	..	..	1
	1394930	Transmission (T78)	..	..	1	..	38	d 1337051	O-Ring	1	1	1	1
1	.....	Differential	1	1	1	1	39	d 1339332	Seal Ring	1	1	1	1
		☞ Figure 161					40	12891	Snap Ring	1	1	1	1
2	.....	Control Valve	1	1	1	1	41	1339334	Spacer	1	1	1	1
		☞ Figure 163					42	d 1337052	Oil Seal	1	1	1	1
3	1367430	Cover	1	1	1	1	43	a 1335973	Cover	2	2	2	2
4	1334717	Housing	1	1	1	1	43	b 1375148	Cover	2	2	2	2
5	d 1334772	Gasket	1	1	1	1	44	287817	Capscrew	2	2	2	2
6	302385	Pin	4	4	4	4	45	292680	Lockwasher	..	2	2	2
7	292516	Capscrew	16	16	16	16	46	1343557	Tube	1	1	1	1
8	292519	Capscrew	3	..	3	3	47	a 1335972	Converter Housing	1	1	1	..
8	c 292519	Capscrew	4	4	..	..	47	b 1375183	Converter Housing	1	1	1	1
9	292524	Capscrew	4	4	4	4	48	193772	Hose	1	1	1	1
10	292682	Lockwasher	48	48	48	48	48	1389608	Hose (Optional)	1	1	1	1
11	334571	Screw	1	1	1	1	49	d 230419	Bearing Cup	1	1	1	1
12	15032	Nut	1	1	1	1	50	292681	Lockwasher	4	4	4	4
13	15483	Fitting	1	1	1	1	51	d 313022	Adhesive	AR	AR	AR	AR
14	222443	Fitting	1	1	1	1	52	292528	Capscrew	2	2	2	2
14	16483	O-Ring	1	1	1	1	53	292683	Lockwasher	2	2	2	2
15	d 137282	Bearing Cup	1	1	1	1	54	287860	Capscrew	21	..	21	21
16	d 286788	Seal	1	1	1	1	54	c 287860	Capscrew	20	20	..	..
17	d 1335921	Charge Pump	1	1	1	1	55	c 320159	Washer	1	1	..	..
17	1355348	Seal	1	1	1	1	56	c 136692	Nut	1	1	..	..
18	d 1334771	Pump Gasket	1	1	1	1	57	336830	Transmission Oil				
19	176640	Capscrew	2	2	2	2		(1 Qt)	AR	AR	AR	AR	AR
20	136703	Capscrew	2	2	2	2	57	336831	Transmission Oil				
21	334450	Screen	1	1	1	1		(2 Gal)	AR	AR	AR	AR	AR
22	334452	Spring	1	1	1	1	57	336832	Transmission Oil				
23	14604	Plug	1	1	1	1		(5 Gal)	AR	AR	AR	AR	AR
23	d 16487	O-Ring	1	1	1	1	57	336833	Transmission Oil				
24	334560	Magnet	1	1	1	1		(55 Gal)	AR	AR	AR	AR	AR
25	d 1322627	Temperature Switch	1	1	1	1	a	Last Used On S/N D177B-16153					
26	1338259	Tube	1	1	1	1	b	First Used On S/N D177B-16154					
27	1343533	Dipstick	1	1	1	1	c	Diesel Only					
28	1316809	Fitting	1	1	1	1	d	Included in Transmission Overhaul Kit 996297					
29	15347	Fitting	1	1	1	1	e	Transmission Last Used On S/N D177B-41853					
30	134436	Fitting	2	2	2	2	f	Transmission First Used On S/N D177B-41854					
30	d 16482	O-Ring	1	1	1	1	g	Used S/N D177B-16154 Thru D177B-43357					
31	235691	Fitting	3	3	3	3							
31	d 16484	O-Ring	1	1	1	1							



## TRANSMISSION (Figure 158)

FIRST USED ON TRANSMISSION S/N T80M-1501, T81M-1501, T83M-1501



# TRANSMISSION

FIRST USED ON TRANSMISSION S/N T80M-1501, T81M-1501, T83M-1501

**KEY:**

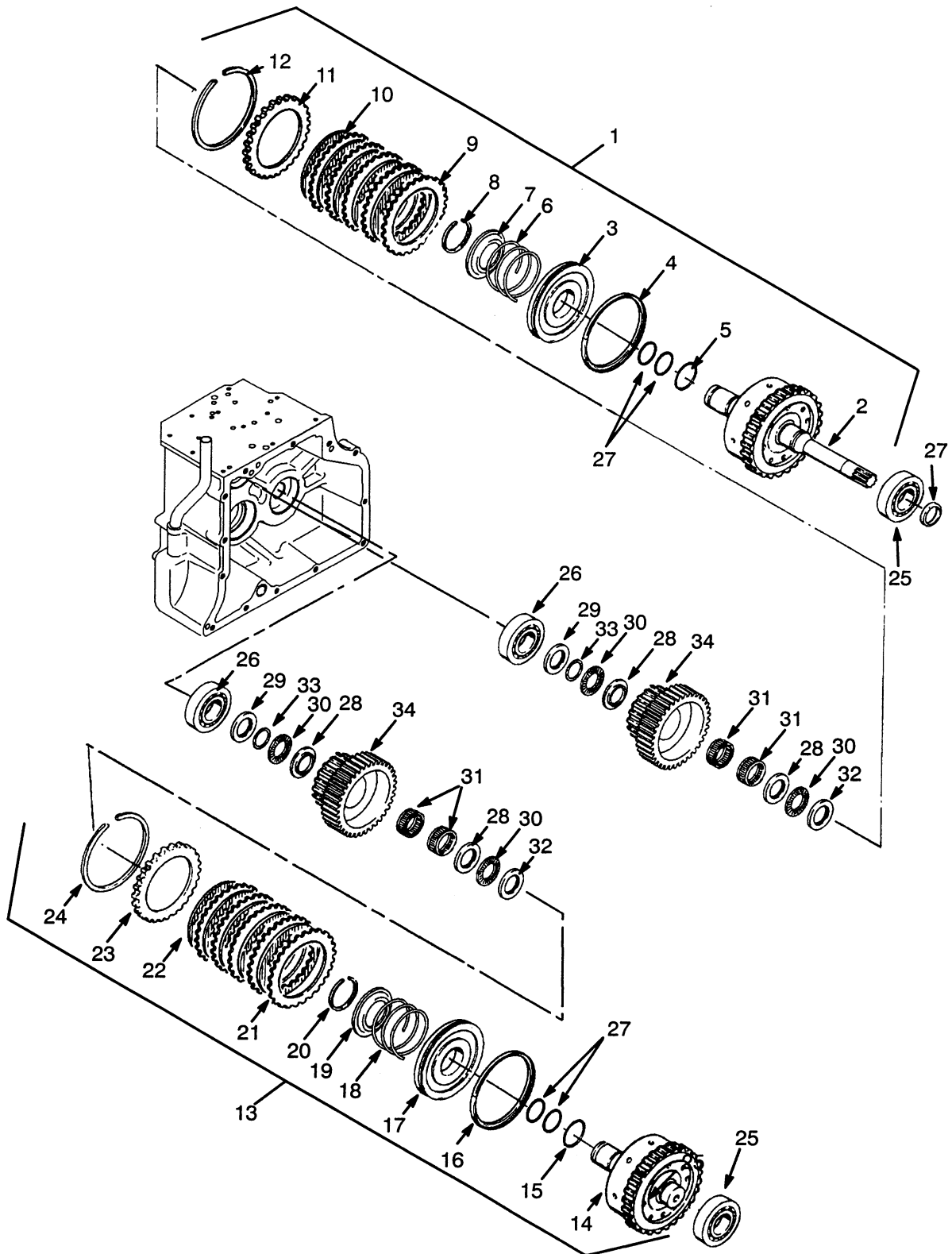
A: Gasoline And LPG 2.0L, 2.2L, 3.0L (Exedy Torque Converter)

B: Diesel 2.4L (Exedy Torque Converter)

C: Diesel 3.0L (Borg And Beck Torque Converter)

QTY				QTY			
REF	PART NO.	NAME OF PART	A B C	REF	PART NO.	NAME OF PART	A B C
	1394942	Transmission (T80) .....	1 1 ..	29	15347	Fitting .....	1 1 1
	1394943	Transmission (T81) .....	.. 1	30	134436	Fitting .....	2 2 2
1	.....	Differential .....	1 1 1	30	16482	O-Ring .....	1 1 1
		☞ Figure 161		31	235691	Fitting .....	3 3 3
2	.....	Control Valve .....	1 1 1	31	16484	O-Ring .....	1 1 1
		☞ Figure 163		32	287472	Spool .....	1 1 1
3	1367430	Cover .....	1 1 1	33	1334786	Spring .....	1 1 1
4	1334717	Housing .....	1 1 1	34	1328692	Oil Filter .....	1 1 1
5	1334772	Gasket .....	1 1 1	35	15314	Fitting .....	3 3 3
6	302385	Pin .....	4 4 4	36	136985	Capscrew .....	4 4 4
7	292516	Capscrew .....	16 16 16	37	1394923	Stator .....	1 1 ..
8	292519	Capscrew .....	3 3 3	37	1334785	Stator .....	.. 1
8 C	292519	Capscrew .....	4 4 4	38	1337051	O-Ring .....	1 1 1
9	292524	Capscrew .....	4 4 4	39	1339332	Seal Ring .....	1 1 1
10	292682	Lockwasher .....	27 27 27	40	12891	Snap Ring .....	1 1 1
11	334571	Screw .....	1 1 1	41	1339334	Spacer .....	1 1 1
12	15032	Nut .....	1 1 1	42	1337052	Oil Seal .....	1 1 1
13	15483	Fitting .....	1 1 1	43	1375148	Cover .....	2 2 2
14	222443	Fitting .....	1 1 1	44	287817	Capscrew .....	2 2 2
14	16483	O-Ring .....	1 1 1	45	292680	Lockwasher .....	2 2
15	137282	Bearing Cup .....	1 1 1	46	1343557	Tube .....	1 1 1
16	286788	Seal .....	1 1 1	47	1375183	Converter Housing .....	1 1 1
17	1335921	Charge Pump .....	1 1 1	48	193772	Hose .....	1 1 1
17	1355348	Seal .....	1 1 1	48	1389608	Hose (Optional) .....	1 1 1
18	1334771	Pump Gasket .....	1 1 1	49	230419	Bearing Cup .....	1 1 1
19	176640	Capscrew .....	2 2 2	50	292681	Lockwasher .....	4 4 4
20	136703	Capscrew .....	2 2 2	51	264159	Adhesive .....	AR ARAR
21	334450	Screen .....	1 1 1	52	292528	Capscrew .....	2 2 2
22	334452	Spring .....	1 1 1	53	292683	Lockwasher .....	2 2 2
23	14604	Plug .....	1 1 1	54	287860	Capscrew .....	21 21 21
23	16487	O-Ring .....	1 1 1	55	320159	Washer .....	1 1 1
24	334560	Magnet .....	1 1 1	56	136692	Nut .....	1 1 1
25	1322627	Temperature Switch .....	1 1 1	57	336830	Transmission Oil (1 Qt) ..	AR ARAR
26	1338259	Tube .....	1 1 1	57	336831	Transmission Oil (2 Gal) .	AR ARAR
27	1343533	Dipstick .....	1 1 1	57	336832	Transmission Oil (5 Gal) .	AR ARAR
28	1316809	Fitting .....	1 1 1	57	336833	Transmission Oil (55 Gal)	AR ARAR

## CLUTCH FORWARD AND REVERSE (Figure 159) LAST USED ON TRANSMISSION S/N T51,T52,T53,T78



## FORWARD AND REVERSE CLUTCH

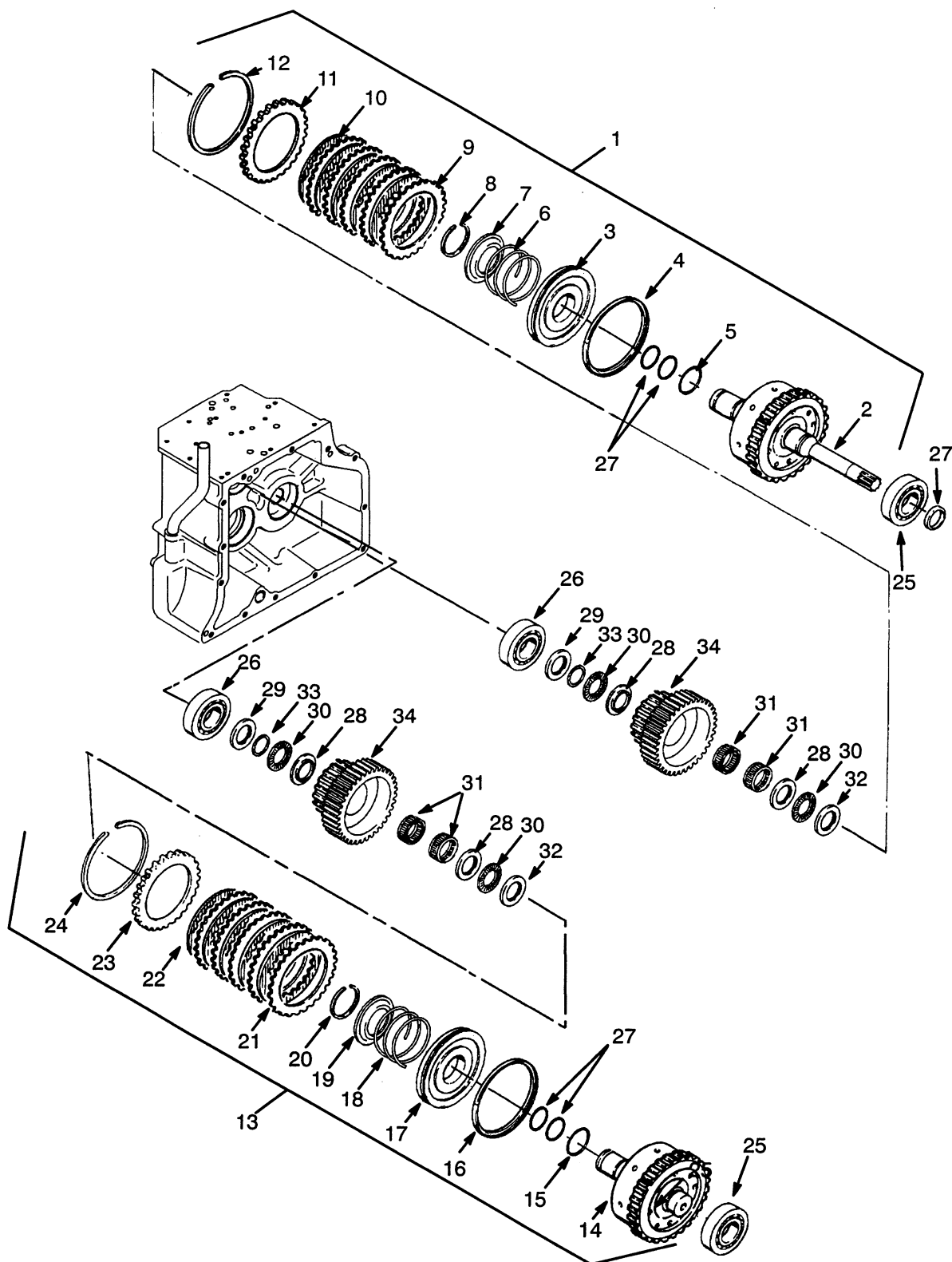
### LAST USED ON TRANSMISSION S/N T51,T52,T53,T78

REF	PART NO.	NAME OF PART	QTY	REF	PART NO.	NAME OF PART	QTY
1	1334579	Clutch (Forward) .....	1	25 e	43207	Bearing .....	2
1 f	1394932	Clutch (Forward) .....	1	26 e	43307	Bearing .....	2
2	1334760	Input Shaft Assembly .....	1	27 e	334429	Ring (Seal) .....	5
2 f	1394931	Input Shaft Assembly .....	1	28 e	347767	Washer .....	4
3	334439	Piston .....	1	29 e	347768	Washer .....	2
4 ae	334402	Seal .....	1	30 e	78826	Bearing .....	4
5 ae	346795	O-Ring .....	1	31 e	334454	Bearing .....	4
6	334595	Spring .....	1	32 e	347770	Washer .....	2
7	334449	Spring Guide .....	1	33 e	347773	Snap Ring .....	2
8 e	334480	Snap Ring .....	1	34 b	1335888	Gear (Clutch Output) .....	2
9 e	334417	Separator Plate .....	5	34 cg	360318	Gear (Clutch Output) .....	2
10 e	346796	Friction Plate .....	5	34 d	1335890	Gear (Clutch Output) .....	2
11 e	334442	Pressure Plate .....	1				
12 e	334475	Snap Ring .....	1	a	Included In Gasket Kit 352075		
13	361895	Reverse Clutch .....	1	b	Used With Gasoline And LPG 2.0L Up To S/N D177B-41854 And Diesel 2.4L		
14	361893	Counter Shaft .....	1	c	Used With Gasoline And LPG 2.2L And 3.0L		
15 ae	346795	O-Ring .....	1	d	Used With Diesel 2.8L And 3.1L		
16 ae	334402	Seal .....	1	e	Included in Transmission Overhaul Kit 996297		
17	334439	Piston .....	1	f	First Used With Gasoline And LPG 2.0L, 2.2L And 3.0L Engines On S/N D177B-41854 And D177B-43357		
18	334595	Spring .....	1	g	First Used With 2.0L Engine D177B-43357		
19	334449	Spring Guide .....	1				
20 e	334480	Snap Ring .....	1				
21 e	334417	Separator Plate .....	5				
22 e	346796	Friction Plate .....	5				
23 e	334442	Pressure Plate .....	1				
24 e	334475	Snap Ring .....	1				

Note: The Above Parts Are Included With Transmissions 1337069, 1337070, 1356309, And 1394930

## CLUTCH-FORWARD AND REVERSE (Figure 160)

FIRST USED ON TRANSMISSION S/N T80M-1501, T81M-1501, T83M-1501



**CLUTCH-FORWARD AND REVERSE**

**FIRST USED ON TRANSMISSION S/N T80M-1501, T81M-1501, T83M-1501**

**KEY:**

**A: Gasoline And LPG 2.0L, 2.2L, 3.0L (Exedy Torque Converter)**

**B: Diesel 2.4L (Exedy Torque Converter)**

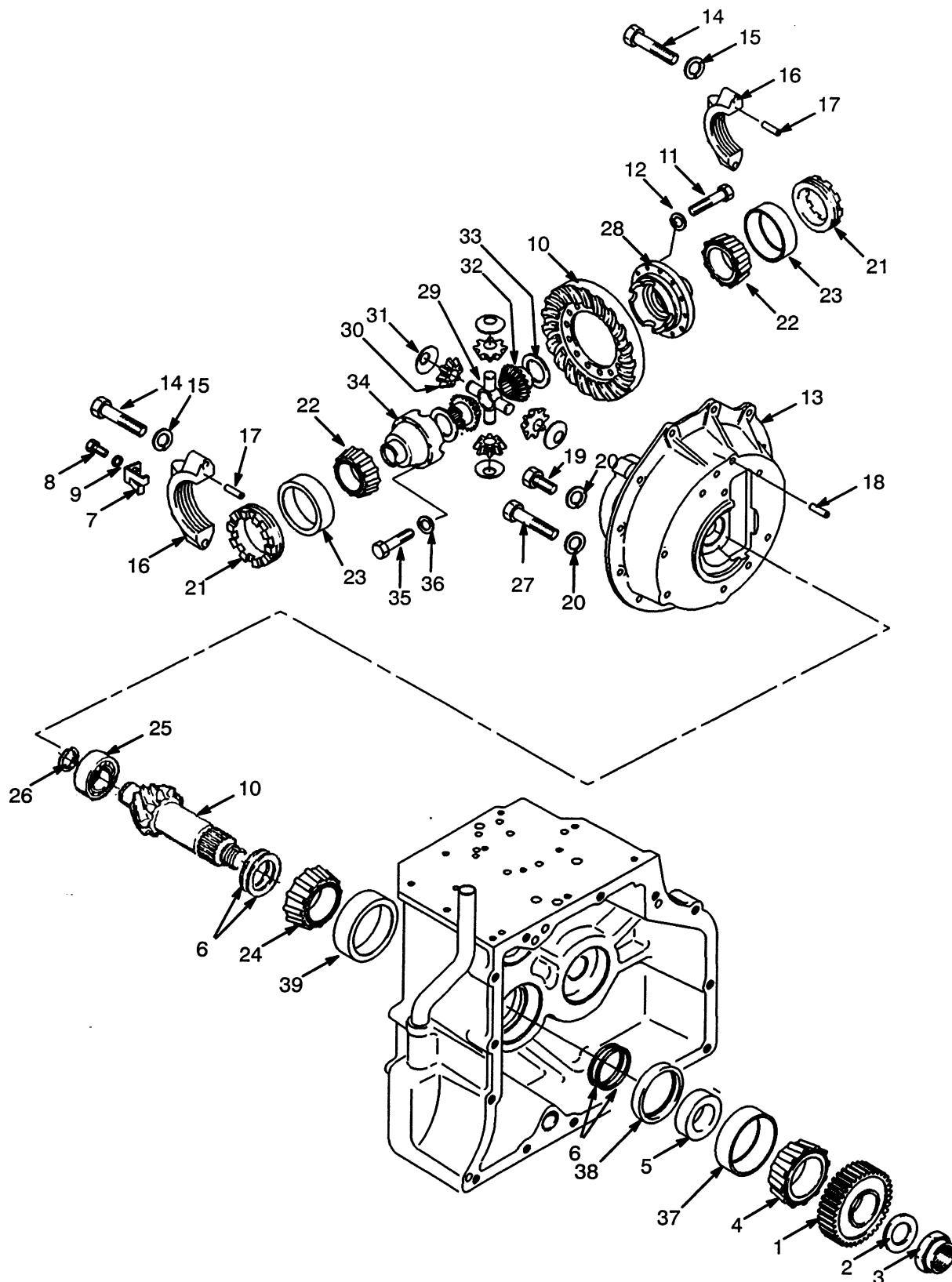
**C: Diesel 3.0L (Borg And Beck Torque Converter)**

REF	PART NO.	NAME OF PART	QTY			REF	PART NO.	NAME OF PART	QTY		
			A	B	C				A	B	C
1	1394902	Clutch (Forward) .....	1	..	..	19	1394893	Spring Guide .....	1	1	1
1	1394901	Clutch (Forward) .....	1	1		20	1394912	Snap Ring .....	1	1	1
2	1394908	Input Shaft Assembly .....	1	..	..	21	334417	Separator Plate .....	5	5	5
2	1394907	Input Shaft Assembly .....	1	1		22	346796	Friction Plate .....	5	5	5
3	1394885	Piston .....	1	1	1	23	1394881	Pressure Plate .....	1	1	1
4	334402	Seal .....	1	1	1	24	334475	Snap Ring .....	1	1	1
5	1394879	O-Ring .....	1	1	1	25	43207	Bearing .....	2	2	2
6	1394882	Spring .....	1	1	1	26	43307	Bearing .....	2	2	2
7	1394893	Spring Guide .....	1	1	1	27	334429	Ring (Seal) .....	5	5	5
8	1394912	Snap Ring .....	1	1	1	28	1394888	Washer .....	4	4	4
9	334417	Separator Plate .....	5	5	5	29	1394894	Washer .....	2	2	2
10	346796	Friction Plate .....	5	5	5	30	1394887	Bearing .....	4	4	4
11	1394881	Pressure Plate .....	1	1	1	31	1394886	Bearing .....	4	4	4
12	334475	Snap Ring .....	1	1	1	32	1394895	Spacer .....	2	2	2
13	1394903	Reverse Clutch .....	1	1	1	33	347773	Snap Ring .....	2	2	2
14	1394909	Counter Shaft .....	1	1	1	34	1394884	Gear (Clutch Output) .....	2	2	..
15	1394879	O-Ring .....	1	1	1	34	1394899	Gear (Clutch Output) .....	..	2	
16	334402	Seal .....	1	1	1						
17	1394885	Piston .....	1	1	1						
18	1394882	Spring .....	1	1	1						

Note: The Above Parts Are Included With  
Transmissions 1394942 And 1394943

## DIFFERENTIAL (Figure 161)

LAST USED ON TRANSMISSION S/N T51,T52,T53,T78



**DIFFERENTIAL**

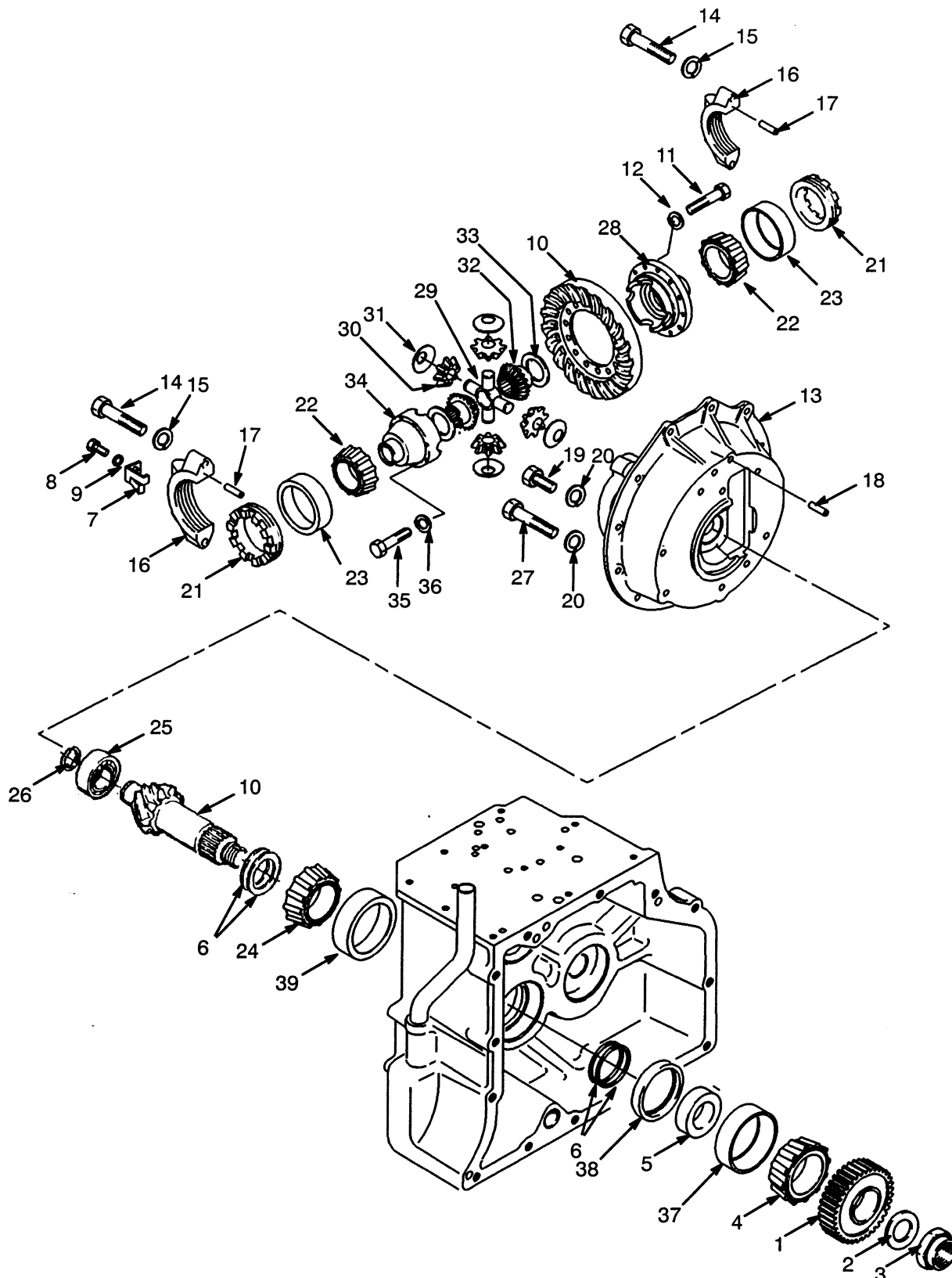
**LAST USED ON TRANSMISSION S/N T51,T52,T53,T78**

REF	PART NO.	NAME OF PART	QTY	REF	PART NO.	NAME OF PART	QTY
1	<b>a</b>	1335894 Gear (Output) .....	1	24	<b>d</b>	342734 Bearing Cone .....	1
1	<b>be</b>	334406 Gear (Output) .....	1	25	<b>d</b>	135158 Bearing .....	1
1	<b>c</b>	1335892 Gear (Output) .....	1	26	<b>d</b>	320264 Ring .....	1
1	<b>f</b>	1386806 Gear (Output) .....	1	27		292519 Capscrew .....	2
2	<b>d</b>	334587 Washer .....	1	28		380478 Differential .....	1
3	<b>d</b>	304406 Nut .....	1	28		..... Housing .....	1
4	<b>d</b>	137283 Bearing Cone .....	1	29		380489 Spider .....	1
5		334453 Spacer .....	1	30		380486 Pinion .....	4
6	<b>d</b>	346842 Shim (0.356 mm) .....	2	31	<b>d</b>	380488 Washer .....	4
6	<b>d</b>	346843 Shim (0.381 mm) .....	2	32		380483 Gear (Side) .....	2
6	<b>d</b>	346844 Shim (0.406 mm) .....	4	33	<b>d</b>	380485 Washer .....	2
6	<b>d</b>	346845 Shim (0.508 mm) .....	4	34		..... Housing .....	1
6	<b>d</b>	346846 Shim (0.559 mm) .....	3	35		221550 Capscrew .....	8
6	<b>d</b>	346847 Shim (0.635 mm) .....	3	36		334580 Washer .....	8
7		334447 Plate .....	2	37		137282 Bearing Cup .....	1
8		287851 Capscrew .....	2	38		286788 Oil Seal .....	1
9		292681 Lockwasher .....	2	39		230419 Bearing Cup .....	1
10		1343219 Gear Set .....	1	<b>a</b>	Used With Gasoline And LPG 2.0L Up To S/N D177B-41854 And Diesel 2.4L		
11		97577 Bolt .....	12	<b>b</b>	Used With Gasoline And LPG 2.2L And 3.0L		
12		221771 Washer .....	12	<b>c</b>	Used With Diesel 2.8L And 3.1L		
13		1334796 Differential Housing .....	1	<b>d</b>	Included in Transmission Overhaul Kit 996297		
14		218599 Capscrew .....	4	<b>e</b>	Used With 2.0L Engine On S/N D177B-41854 Thru Transmission S/N T51,T52,T53,T78		
15		221773 Flat Washer .....	4	<b>f</b>	First Used On Transmission S/N T80M-1501, T81M-1501,T83M-1501		
16		367475 Bearing Cap .....	2	Note: The Above Parts Are Included With Transmission 1337069, 1337070, 1356309, And 1394930			
17		234038 Dowel Pin .....	4				
18		309831 Pin .....	1				
19		136985 Capscrew .....	8				
20		292682 Lockwasher .....	10				
21		347746 Nut .....	2				
22	<b>d</b>	78584 Bearing Cone .....	2				
23	<b>d</b>	45733 Bearing Cup .....	2				



## DIFFERENTIAL (Figure 162)

FIRST USED ON TRANSMISSION S/N T80M-1501, T81M-1501, T83M-1501



**DIFFERENTIAL**

**FIRST USED ON TRANSMISSION S/N T80M-1501, T81M-1501,T83M-1501**

**KEY:**

**A: Gasoline And LPG 2.0L, 2.2L, 3.0L (Exedy Torque Converter)**

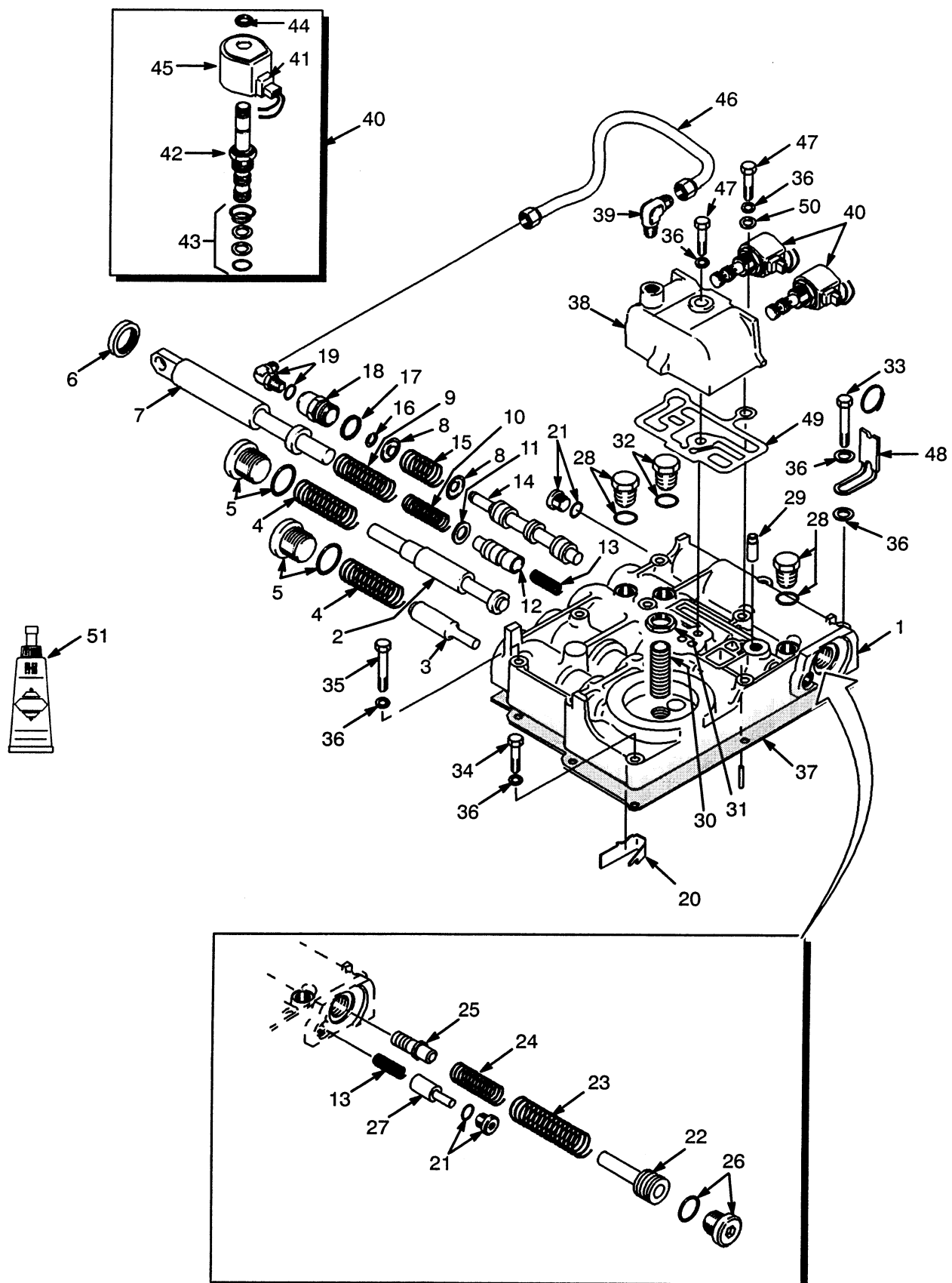
**B: Diesel 2.4L (Exedy Torque Converter)**

**C: Diesel 3.0L (Borg And Beck Torque Converter)**

REF	PART NO.	NAME OF PART	QTY			REF	PART NO.	NAME OF PART	QTY		
			A	B	C				A	B	C
1	1386806	Gear (Output) .....	1	1	..	19	136985	Capscrew .....	8	8	8
1	1386807	Gear (Output) .....	..	1		20	292682	Lockwasher .....	10	10	10
2	334587	Washer .....	1	1	1	21	347746	Nut .....	2	2	2
3	304406	Nut .....	1	1	1	22	78584	Bearing Cone .....	2	2	2
4	137283	Bearing Cone .....	1	1	1	23	45733	Bearing Cup .....	2	2	2
5	334453	Spacer .....	1	1	1	24	342734	Bearing Cone .....	1	1	1
6	346842	Shim (0.356 mm) .....	2	2	2	25	135158	Bearing .....	1	1	1
6	346843	Shim (0.381 mm) .....	2	2	2	26	320264	Ring .....	1	1	1
6	346844	Shim (0.406 mm) .....	4	4	4	27	292519	Capscrew .....	2	2	2
6	346845	Shim (0.508 mm) .....	4	4	4	28	1383450	Differential .....	1	1	1
6	346846	Shim (0.559 mm) .....	3	3	3	28	.....	Housing .....	1	1	1
6	346847	Shim (0.635 mm) .....	3	3	3	29	1383461	Spider .....	1	1	1
7	334447	Plate .....	2	2	2	30	1383458	Pinion .....	4	4	4
8	287851	Capscrew .....	2	2	2	31	1343460	Washer .....	4	4	4
9	292681	Lockwasher .....	2	2	2	32	1383455	Gear (Side) .....	2	2	2
10	1343219	Gear Set .....	1	1	1	33	1383457	Washer .....	2	2	2
11	97577	Bolt .....	12	12	12	34	.....	Housing .....	1	1	1
12	221771	Washer .....	12	12	12	35	293657	Capscrew .....	8	8	8
13	1334796	Differential Housing .....	1	1	1	36	1383466	Washer .....	8	8	8
14	218599	Capscrew .....	4	4	4	37	137282	Bearing Cup .....	1	1	1
15	221773	Flat Washer .....	4	4	4	38	286788	Oil Seal .....	1	1	1
16	367475	Bearing Cap .....	2	2	2	39	230419	Bearing Cup .....	1	1	1
17	234038	Dowel Pin .....	4	4	4						
18	309831	Pin .....	1	1	1						

Note: The Above Parts Are Included With  
Transmissions 1394942 And 1394943

## CONTROL VALVE (Figure 163) TRANSMISSION



## CONTROL VALVE TRANSMISSION

**KEY:**

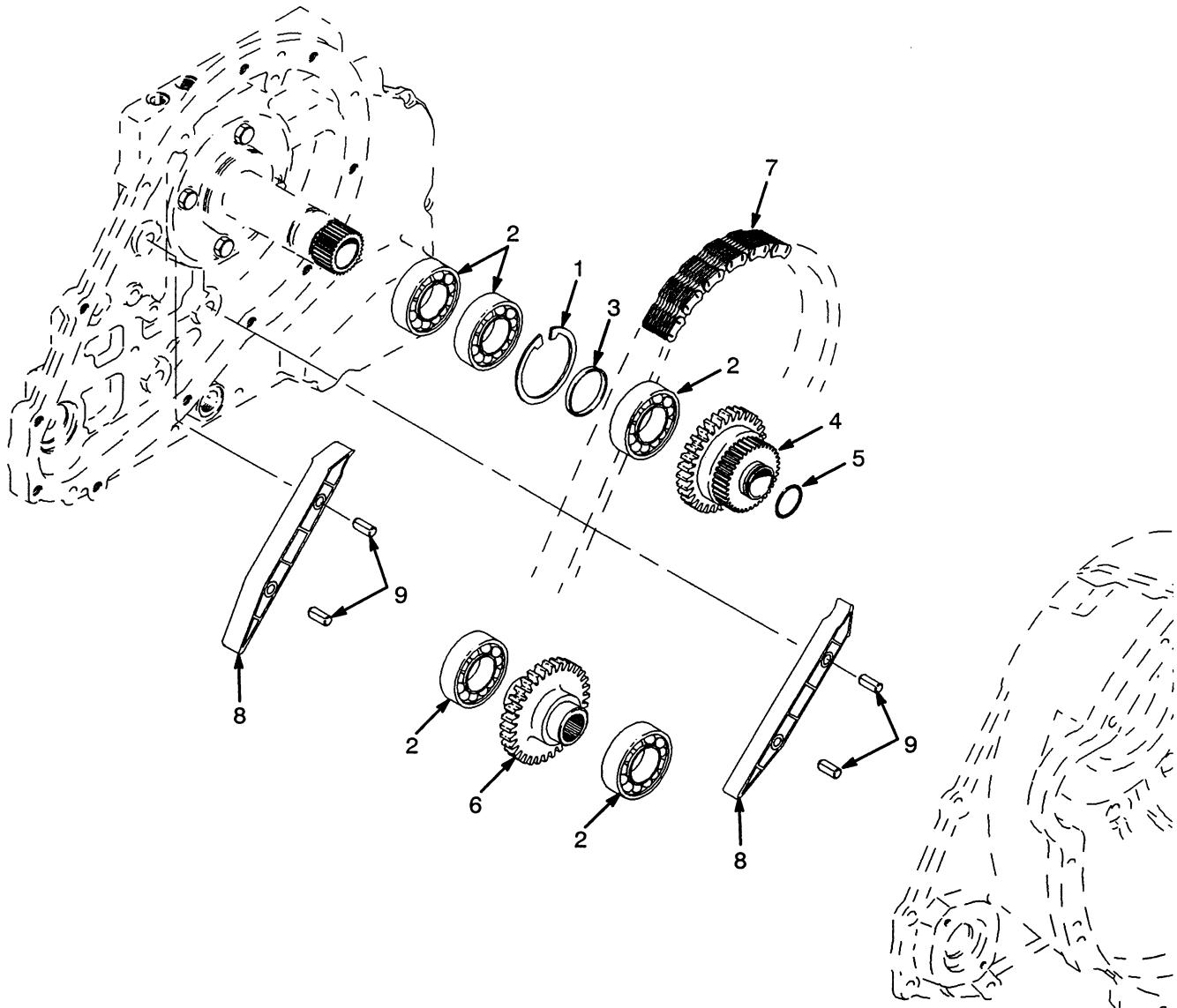
**A:** Last Used on Transmission S/N T051-M21379, T51B-13932, T52B-4008, T53B-3806

**B:** First Used on Transmission S/N T051-M21380, T51B-13933, T52B-4009, T53B-3807

REF	PART NO.	NAME OF PART	QTY		REF	PART NO.	NAME OF PART	QTY	
			A	B				A	B
	1308057	Control Valve .....	1	..	30	181766	Nipple .....	1	1
	1391377	Control Valve .....	..	1	31	15032	Nut .....	1	1
1	.....	Body .....	1	1	32	134436	Fitting .....	1	1
2	359223	Spool .....	1	1	32 <b>ab</b>	16482	O-Ring .....	1	1
3	334524	Spool .....	1	1	33	136704	Capscrew .....	3	3
4 <b>b</b>	334525	Spring .....	2	2	34	292508	Capscrew .....	1	1
5	235691	Fitting .....	2	2	35	292509	Capscrew .....	3	3
5 <b>ab</b>	16484	O-Ring .....	1	1	36	320157	Washer .....	12	12
6 <b>ab</b>	334500	Oil Seal .....	1	1	37	1350276	Gasket .....	1	1
7	1337817	Inching Spool .....	1	1	38	1350274	Manifold Valve .....	1	..
8 <b>b</b>	346648	Spring Cap .....	2	2	38	1391375	Manifold Valve .....	..	1
9 <b>b</b>	334531	Spring .....	1	1	39	14500	Fitting .....	1	1
10 <b>b</b>	1347300	Spring .....	1	1	40 <b>c</b>	1350275	Solenoid Valve .....	2	2
11	296418	Washer .....	1	1	40 <b>d</b>	1390610	Solenoid Valve .....	2	2
12	334532	Spool .....	1	1	41	1452595	Coil .....	1	1
13 <b>b</b>	334543	Spring .....	2	2	42	1452596	Cartridge .....	1	1
14	369922	Spool (Fwd/Rev) .....	1	1	43	1393160	Seal Kit .....	1	1
15 <b>b</b>	346645	Center Spring .....	1	1	44	.....	Nut .....	1	1
16	346650	Snap Ring .....	1	1	45	1365276	Housing .....	1	1
17 <b>ab</b>	367945	Gasket .....	1	1	46	1302973	Tube .....	1	1
18	375986	Cap .....	1	1	47	346656	Capscrew .....	4	4
19	16556	Fitting .....	1	1	48	1385873	Strap .....	1	1
19 <b>ab</b>	16481	O-Ring .....	1	1	49	1388573	Manifold Gasket .....	1	1
20	350484	Inching Stop .....	1	1	50	15932	Lockwasher .....	1	1
21	222443	Fitting .....	2	2	51	273338	Sealant .....	ARAR	
21 <b>ab</b>	16483	O-Ring .....	1	1	<b>a</b> Included In Seal Kit 373833				
22	334582	Spool .....	1	1	<b>b</b> Included in Transmission Overhaul Kit 996297				
23 <b>b</b>	361877	Spring .....	1	1	<b>c</b> Last Used On Transmission S/N T51M-21379, T51B-14127, T52B-4167 And T53B-3851				
24 <b>b</b>	361876	Spring .....	1	1	<b>d</b> First Used On Transmission S/N T51M-21380, T51B-14128, T52B-4168 And T53B-3852				
25	359221	Spool .....	1	1	Note: The Above Parts Are Included With Transmissions 1337069, 1337070, 1356309, And 1394930				
26	200659	Fitting .....	1	1					
26 <b>ab</b>	16982	O-Ring .....	1	1					
27	334542	Spool .....	1	1					
28	14592	Fitting .....	2	2					
28 <b>ab</b>	16482	O-Ring .....	1	1					
29	369921	Pin .....	1	..					

## PUMP DRIVE (Figure 164)

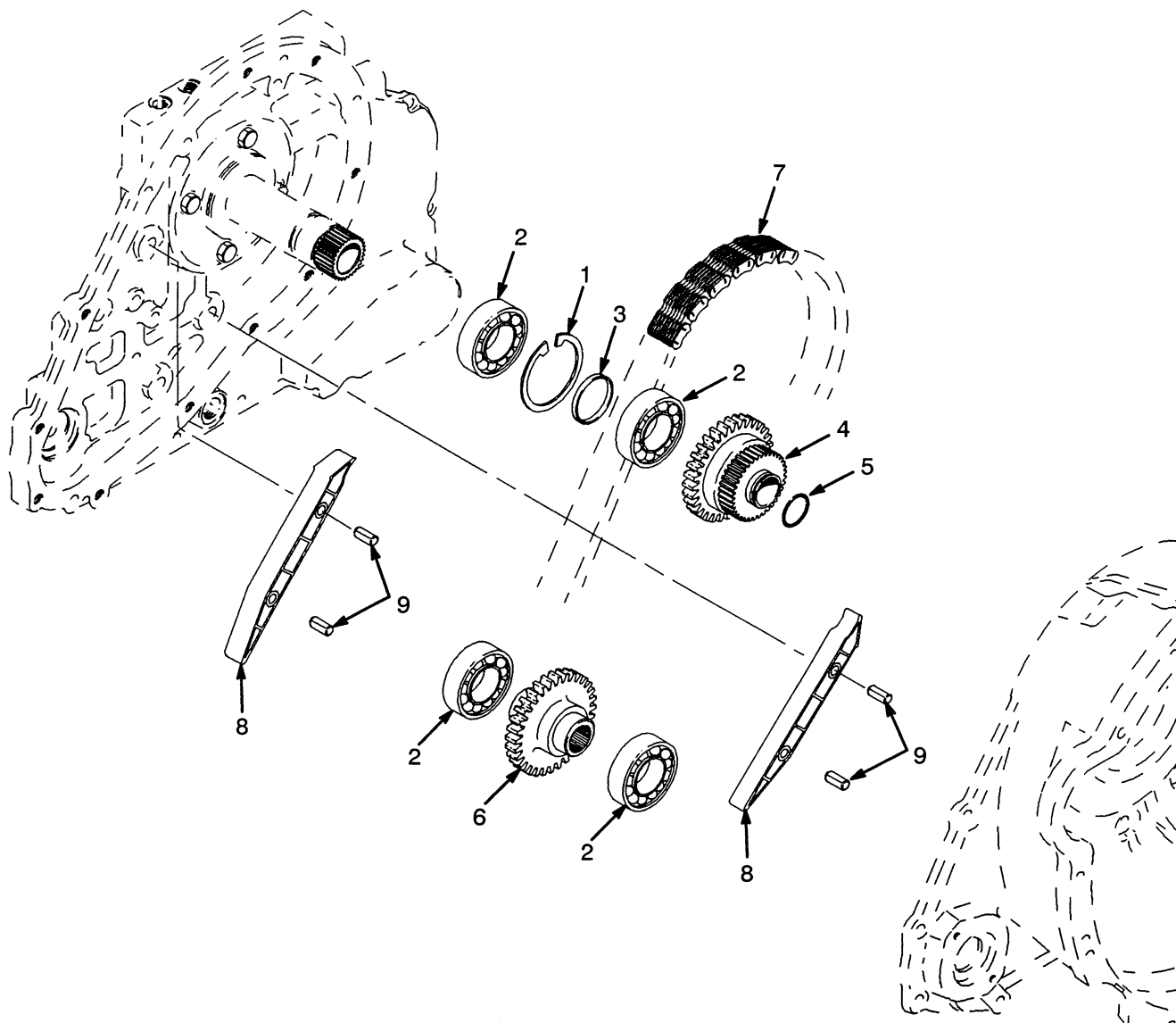
LAST USED ON TRANSMISSION S/N T80M-1644



REF	PART NO.	NAME OF PART	QTY
1	12894	Snap Ring .....	1
2	44308	Bearing Ball .....	5
3	1339333	Spacer .....	1
4	1343479	Input Sprocket .....	1
5	1338296	O-Ring .....	1

REF	PART NO.	NAME OF PART	QTY
6	1343480	Pump Sprocket .....	1
7	1343478	Chain .....	1
8	1347158	Snubber .....	2
9	80952	Pin .....	4

**PUMP DRIVE (Figure 165)**  
**FIRST USED ON S/N T80M-1645**



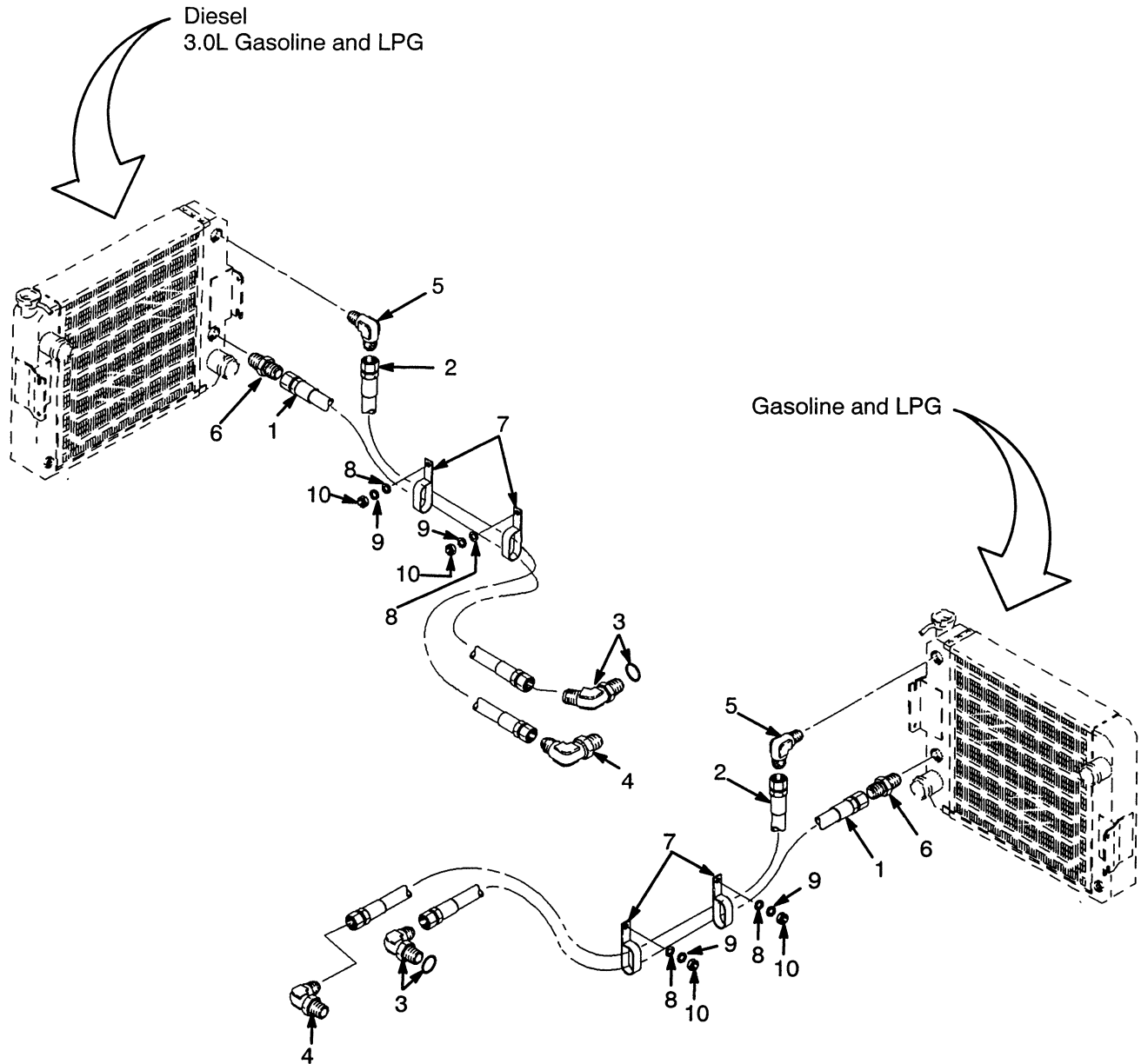
REF	PART NO.	NAME OF PART	QTY
1	12894	Snap Ring .....	1
2	44308	Bearing Ball .....	4
3	1394904	Spacer .....	1
4	1343479	Input Sprocket .....	1
5	1338296	O-Ring .....	1
6	1343480	Pump Sprocket .....	1

REF	PART NO.	NAME OF PART	QTY
7	1343478	Chain .....	1
8	1347158	Snubber .....	2
9	80952	Pin .....	4

Note: The Above Parts Are Included With  
Transmissions 1394942, 1394942

## This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

# TRANSMISSION COOLING (Figure 166)



**KEY:**

**A:** Gasoline And LPG 2.0L And 2.2L  
**B:** Diesel; Gasoline, And LPG 3.0L

REF	PART NO.	NAME OF PART	QTY	
			A	B
1	<sup>a</sup> 1344146	Hose .....	1	..
1	<sup>b</sup> 1382320	Hose .....	1	..
1	1351134	Hose .....	..	1
2	<sup>a</sup> 1331162	Hose .....	1	..
2	<sup>b</sup> 1371429	Hose .....	1	..
2	1371429	Hose .....	1	..
2	1351135	Hose .....	..	1
3	16568	Fitting .....	1	..
3	17167	Fitting .....	..	1
3	16484	O-Ring .....	1	1

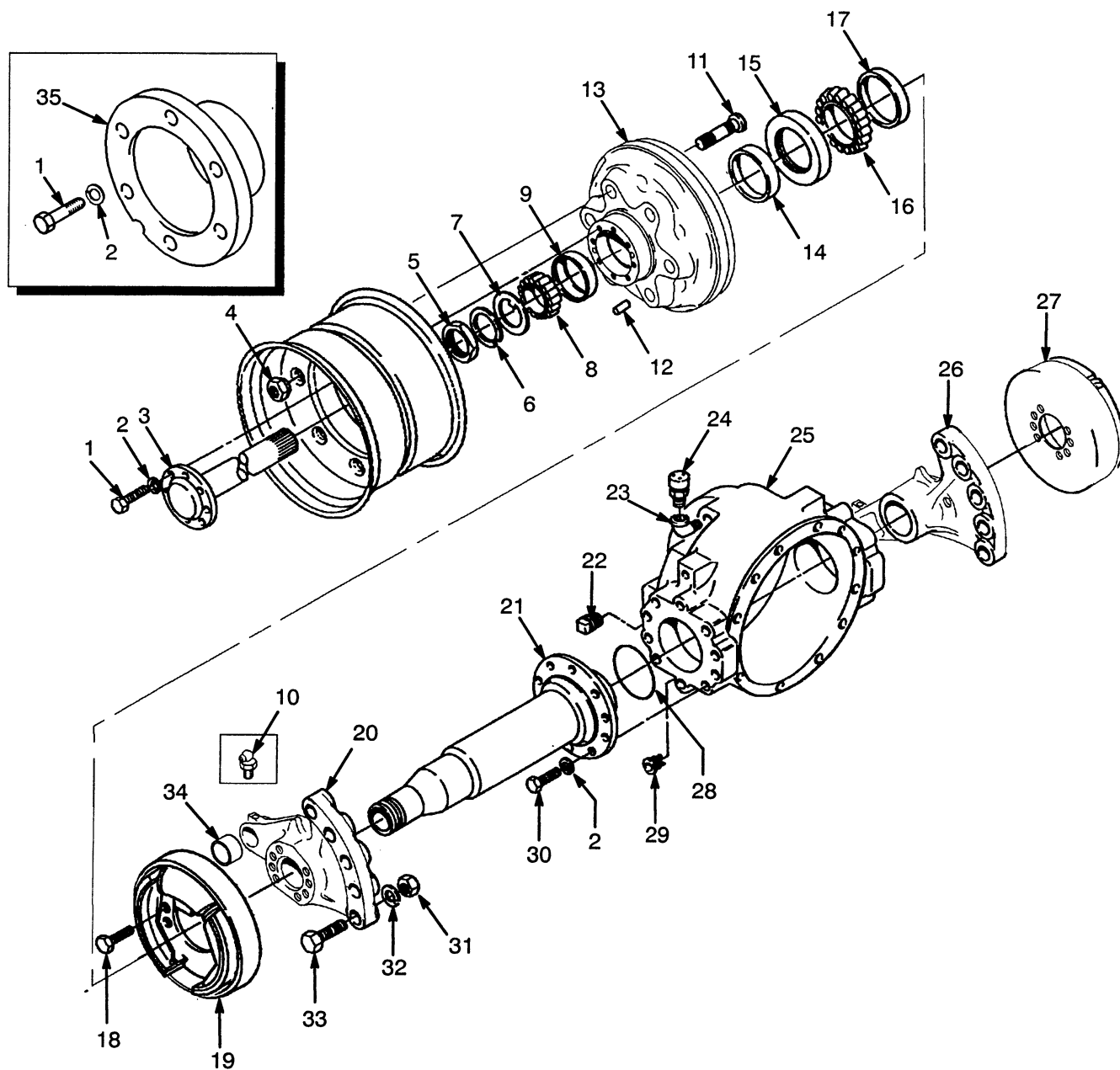
REF	PART NO.	NAME OF PART	QTY	
			A	B
4	14506	Fitting .....	1	1
5	17309	Fitting .....	1	1
6	17315	Fitting .....	1	1
7	140660	Clamp .....	2	2
8	320157	Washer .....	2	2
9	292681	Lockwasher .....	2	2
10	239503	Nut .....	2	2

<sup>a</sup> Last Used On S/N D177B-23279

<sup>b</sup> First Used On S/N D177B-23280



## DRIVE AXLE (Figure 167)



**DRIVE AXLE**

REF	PART NO.	NAME OF PART	QTY	REF	PART NO.	NAME OF PART	QTY
1	300794	Capscrew .....	16	20	1335503	Bracket .....	1
1 <sup>a</sup>	326488	Capscrew .....	16	21	300758	Spindle .....	2
2	292683	Lockwasher .....	36	21	251979	Lubricant .....	AR
3	1383463	Axle Shaft .....	2	22	15303	Fitting .....	1
3	313022	Sealant .....	AR	23	16151	Fitting .....	1
4	11276	Nut .....	12	24	21420	Breather Plug .....	1
5	33657	Locknut .....	2	25	1334791	Axle Housing .....	1
6	145978	Lockwasher .....	2	25	313022	Adhesive .....	AR
7	85885	Washer .....	2	26	1335502	Bracket .....	1
8	264892	Bearing Cone .....	2	27	.....	Brake .....	1
9	264893	Bearing Cup .....	2			☞ Figure 173	
10	16009	Lube Fitting .....	2	28	39714	O-Ring .....	2
11	137154	Stud .....	12	29	15290	Fitting .....	1
12	328390	Dowel Pin .....	4	30	292528	Capscrew .....	20
13	1335986	Brake Drum .....	2	31	292620	Nut .....	10
14	300800	Seal .....	2	32	292687	Lockwasher .....	10
15	224571	Bearing Cup .....	2	33	292588	Capscrew .....	10
16	224570	Bearing Cone .....	2	34	1333385	Bushing .....	2
17	300801	Seal .....	2	35 <sup>a</sup>	1347020	Spacer .....	2
18	1327246	Bolt .....	16				
19	.....	Brake .....	1				
		☞ Figure 173					
				<sup>a</sup>		Dual Wheels	

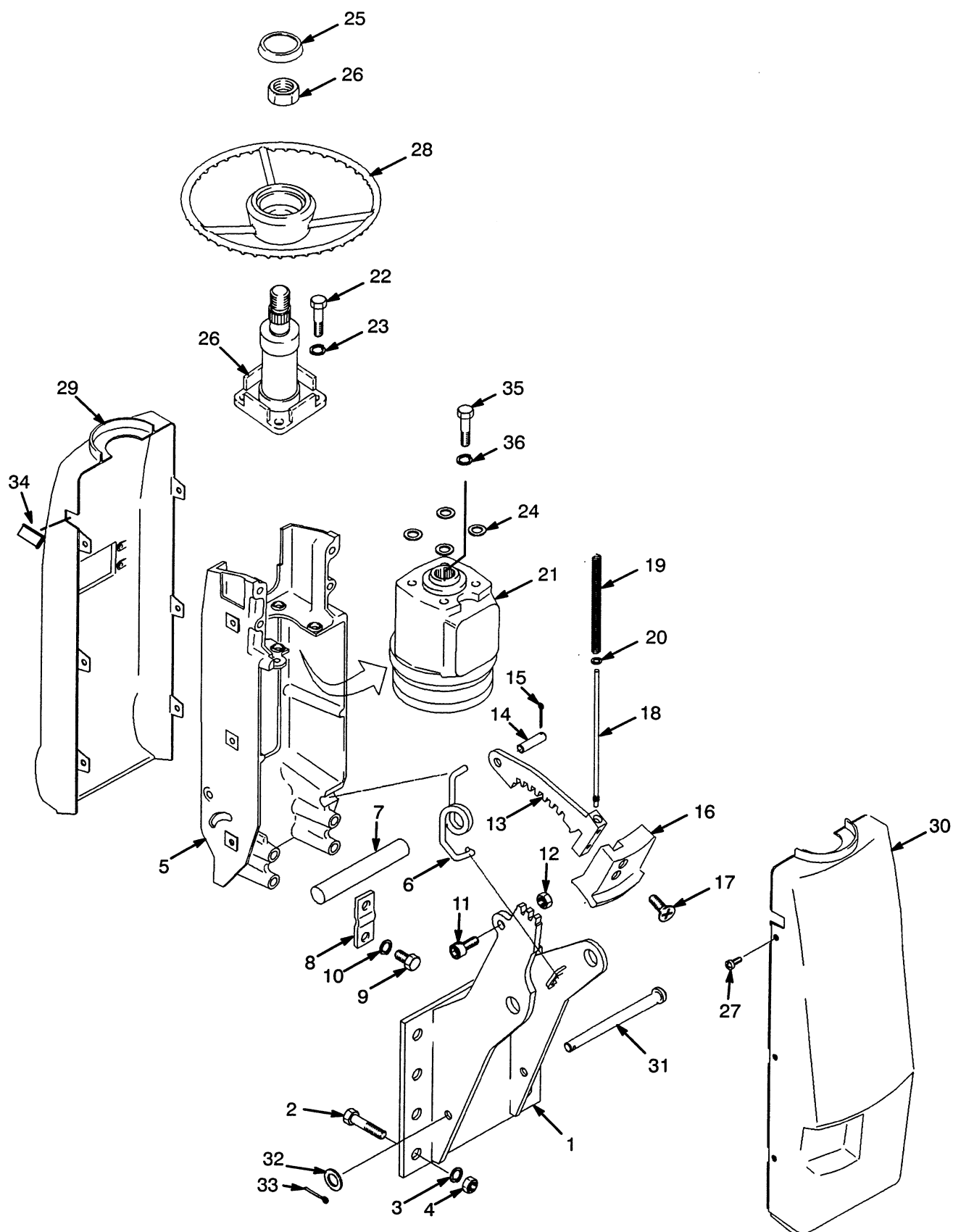
## This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

---

## STEERING SYSTEM

STEERING AXLE (Figure 169) .....	Page 310
STEERING CONTROL UNIT (Figure 170) .....	Page 312
STEERING CYLINDER (Figure 171) .....	Page 313
STEERING POD (Figure 168) .....	Page 308

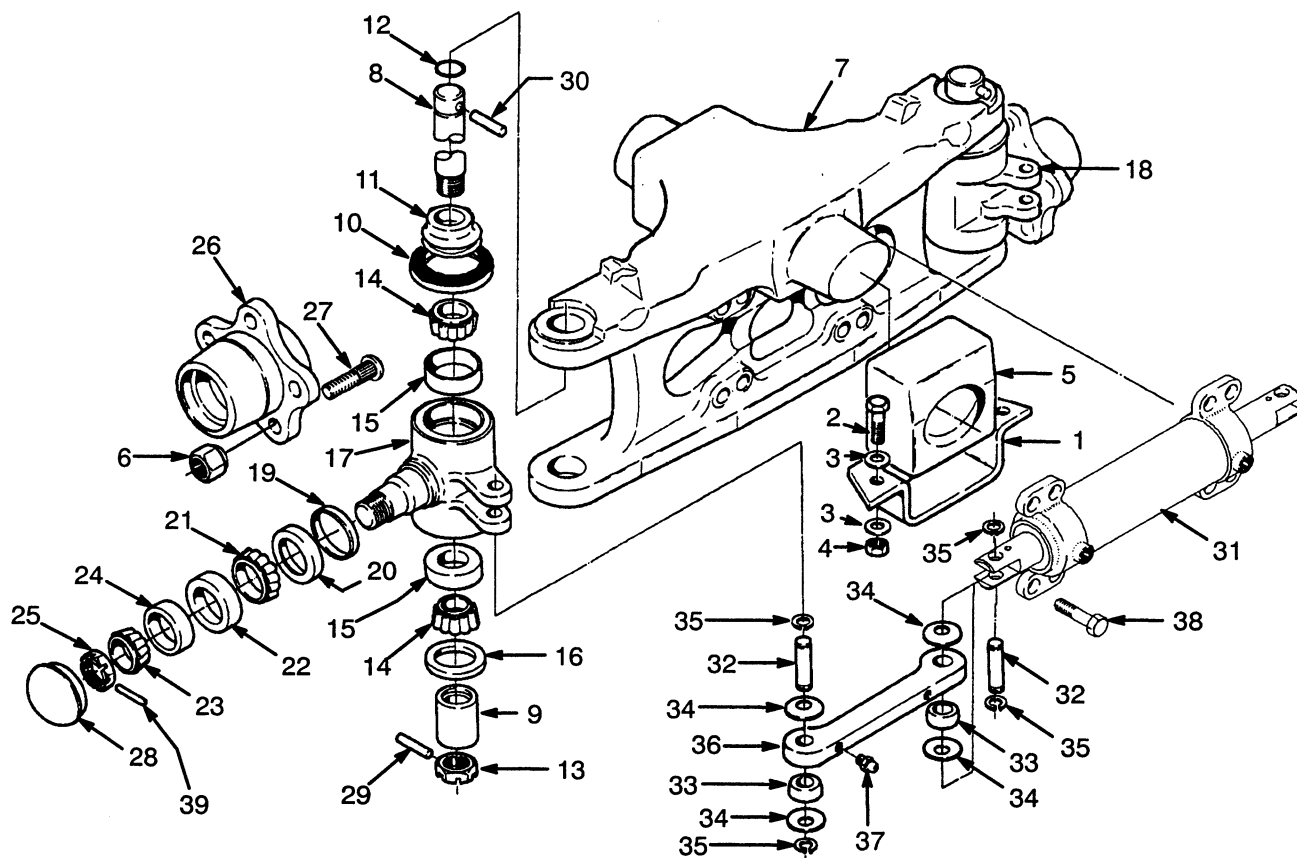
## STEERING POD (Figure 168)




**STEERING POD**

REF	PART NO.	NAME OF PART	QTY	REF	PART NO.	NAME OF PART	QTY
1	1337043	Bracket .....	1	21	.....	Steering Control Unit .....	1
2	136985	Capscrew .....	4			Figure 170	
3	292682	Lockwasher .....	4	22	16815	Capscrew .....	4
4	136692	Nut .....	4	23	15156	Lockwasher .....	4
5	1343573	Bracket .....	1	24	15134	Washer .....	4
6	1378600	Spring .....	1	25	1347135	Horn Button .....	1
7	1335987	Shaft .....	1	26	1347025	Steering Column .....	1
8	1335967	Plate .....	2	26	345423	Nut .....	1
9	136749	Capscrew .....	4	27	1337196	Screw .....	6
10	292681	Lockwasher .....	4	28	1329250	Steering Wheel .....	1
11	296010	Capscrew .....	1	29	1376744	Cover (Upper) .....	1
12	302400	Nut .....	1	30	1376745	Cover (Lower) .....	1
13	1364271	Gear Latch .....	1	31	1352616	Pin .....	1
14	1343607	Pin .....	1	32	320156	Washer .....	1
15	15212	Pin .....	1	33	18824	Cotter Pin .....	1
16	1343574	Anchor .....	1	34	1376743	Plug .....	1
17	296472	Screw .....	2	35	293762	Screw .....	4
18	1343572	Rod .....	1	36	293779	Washer .....	4
19	1343537	Spring .....	1				
20	320155	Washer .....	1				

## STEERING AXLE (Figure 169)

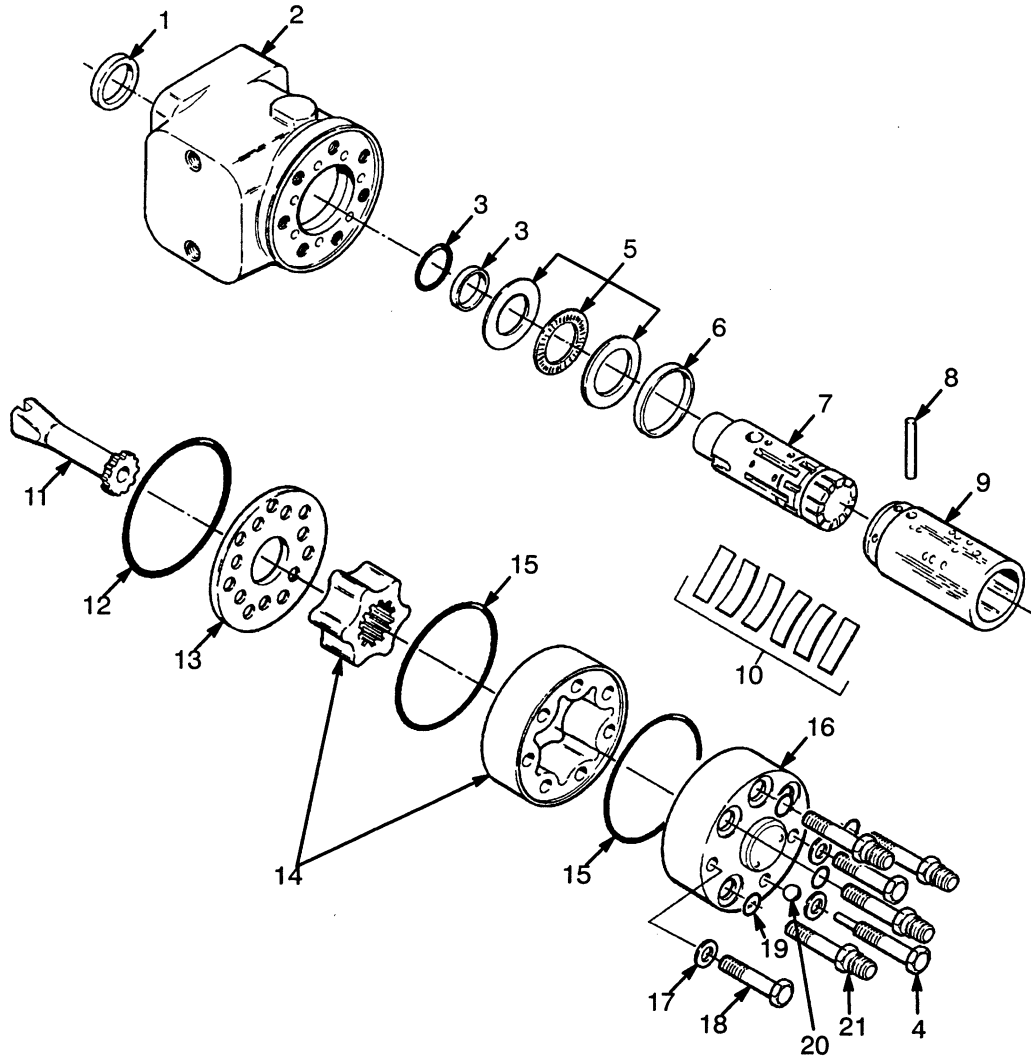


**STEERING AXLE**

REF	PART NO.	NAME OF PART	QTY	REF	PART NO.	NAME OF PART	QTY
1	1334723	Plate .....	2	22	163970	Bearing Cup .....	2
2	293648	Capscrew .....	4	23	317076	Bearing Cone .....	2
3	320161	Washer .....	8	24	317075	Bearing Cup .....	2
4	300937	Nut .....	4	25	1383777	Nut .....	2
5	1343831	Mount .....	2	26	300738	Hub .....	2
6	60949	Nut .....	10	27	339529	Wheel Stud .....	10
7	1334718	Steering Axle .....	1	28	69029	Hub Cap .....	2
8 <sup>a</sup>	300765	Kingpin .....	2	29	15225	Pin .....	2
9 <sup>a</sup>	300766	Sleeve .....	2	30 <sup>a</sup>	226986	Grooved Pin .....	2
10 <sup>a</sup>	264973	Seal .....	2	31	.....	Steering Cylinder .....	1
11 <sup>a</sup>	300767	Spacer .....	2			 Figure 171	
12 <sup>a</sup>	39352	O-Ring .....	2	32	326498	Pin .....	4
13	249289	Slotted Nut .....	2	33	300751	Bushing .....	4
14 <sup>a</sup>	156195	Bearing Cone .....	4	34	300752	Washer .....	8
15 <sup>a</sup>	156194	Bearing Cup .....	4	35	58903	Snap Ring .....	8
16 <sup>a</sup>	98525	Seal .....	2	36	381298	Tie Rod .....	2
17	1310599	Spindle (LH) .....	1	37	13957	Grease Fitting .....	6
18	1315425	Spindle (RH) .....	1	38	293686	Capscrew .....	8
19	44542	Oil Seal .....	2	39	15227	Pin .....	2
20 <sup>a</sup>	164639	Wear Sleeve .....	2			<sup>a</sup> Included In Kingpin Kit 334717	
21	30273	Bearing Cone .....	2			For One Side	



## STEERING CONTROL UNIT (Figure 170)



REF	PART NO.	NAME OF PART	QTY
	1347024	Steering Control Unit .....	1
1	1355322	Seal Ring .....	1
2	.....	Housing .....	1
3 <b>ab</b>	1384429	Seal .....	1
3 <b>ab</b>	.....	O-Ring .....	1
3 <b>ab</b>	.....	Ring .....	1
3 <b>ac</b>	2032230	Seal .....	1
4	346208	Screw .....	1
5	345410	Bearing .....	1
6	345411	Ring .....	1
7	.....	Spool .....	1
8	345412	Pin .....	1
9	.....	Sleeve .....	1
10	1303787	Spring Set .....	1
11	1355326	Shaft .....	1

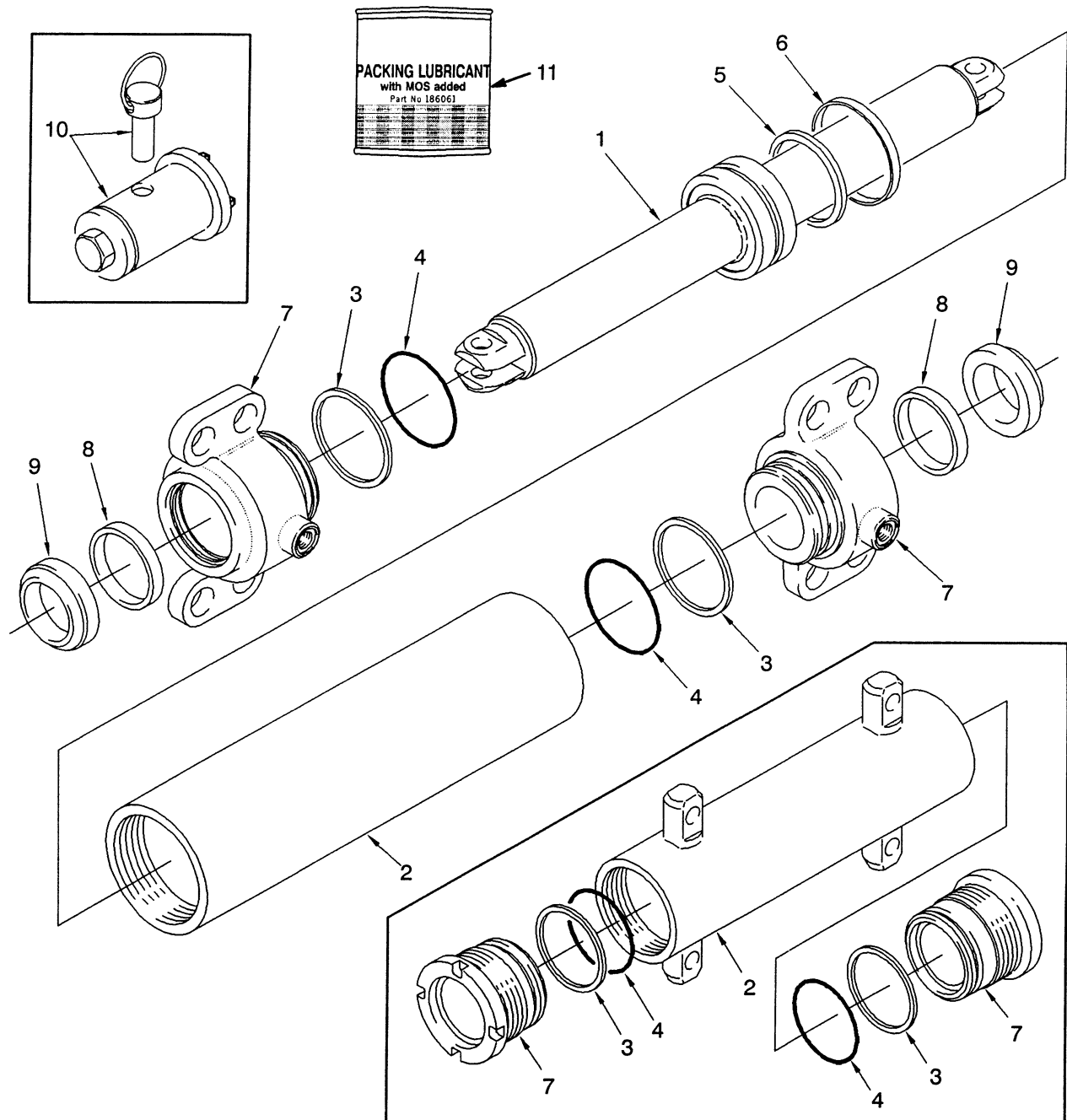
REF	PART NO.	NAME OF PART	QTY
12 <b>a</b>	1355327	O-Ring .....	1
13	1355328	Plate .....	1
14	1355329	Gear Set .....	1
15 <b>a</b>	1355330	O-Ring .....	2
16	1355331	Cover-End .....	1
17 <b>a</b>	381370	Washer .....	3
18	346205	Capscrew .....	2
19 <b>a</b>	1355332	O-Ring .....	4
20	1355335	Ball .....	1
21	1355334	Screw .....	4

**a** Included In Seal Kit 1355337

**b** Last Used On Steering Control Unit Date  
Code 96/02

**c** First Used On Steering Control Unit Date  
Code 96/03

**STEERING CYLINDER (Figure 171)**



REF	PART NO.	NAME OF PART	QTY	REF	PART NO.	NAME OF PART	QTY
	1321174	Cylinder	1	7	1321149	End Cap	2
1	375634	Rod And Piston	1	8 a	210183	Rod Seal	2
2	375635	Shell	1	9 a	203071	Wiper	2
3 a	147973	Back-Up Ring	2	10	332495	Tool Kit	1
4 a	130825	O-Ring	2	11	186061	Packing Lubricant	AR
5 a	243190	Quadrant Ring	1				
6 a	199851	Seal	1	a	Included In Seal Kit 360299		

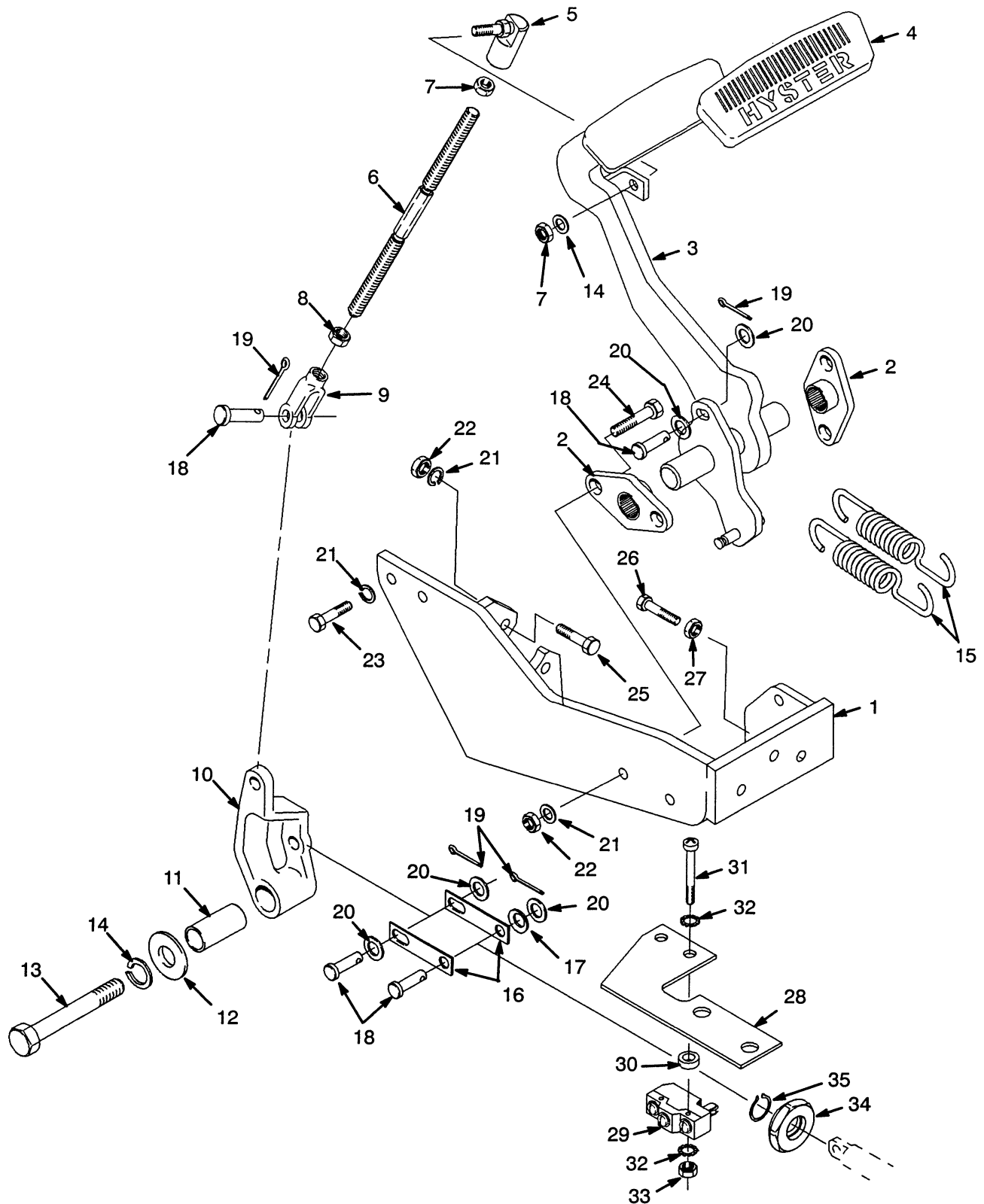
## This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

---

**BRAKE**

BRAKE (Figure 173) .....	Page 318
BRAKE LINES (Figure 174) .....	Page 320
BRAKE PEDAL LINKAGE (Figure 172) .....	Page 316
MASTER CYLINDER (Figure 176) .....	Page 322
PARK BRAKE (Figure 175) .....	Page 321

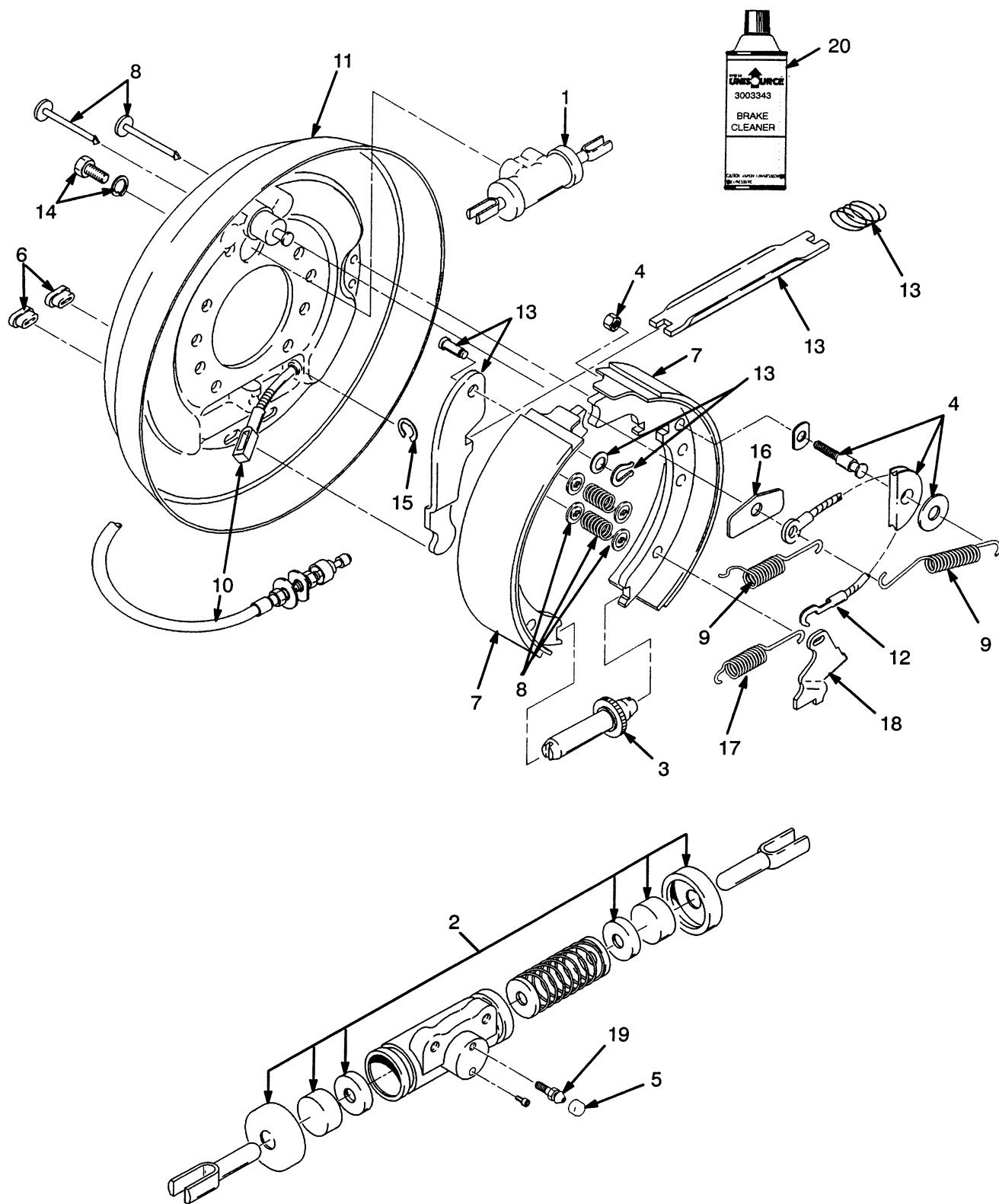
## BRAKE PEDAL LINKAGE (Figure 172)



**BRAKE PEDAL LINKAGE**

REF	PART NO.	NAME OF PART	QTY	REF	PART NO.	NAME OF PART	QTY
1	1343541	Bracket .....	1	20	320159	Washer .....	7
2	1327161	Bushing .....	2	21	292682	Lockwasher .....	6
3	1343540	Pedal .....	1	22	136692	Nut .....	4
4	1343630	Pad .....	1	23	287854	Capscrew .....	6
5	1338260	Ball Joint .....	1	24	136985	Capscrew .....	2
6	2033602	Link .....	1	25	287860	Capscrew .....	2
7	15025	Nut .....	2	26	292533	Capscrew .....	1
8	16897	Nut .....	1	27	296130	Nut .....	1
9	1338262	Rod End .....	1	28	1324557	Bracket .....	1
10	1343553	Inching Crank .....	1	29 a	1320893	Switch .....	1
11	1337108	Spacer .....	1	30 a	316132	Spacer .....	1
12	332755	Washer .....	1	31 a	86510	Screw .....	2
13	136703	Capscrew .....	1	32 a	16743	Washer .....	4
14	292681	Lockwasher .....	2	33 a	15049	Nut .....	2
15	1343508	Spring .....	2	34 a	387455	Disc .....	1
16	1337091	Half Link .....	2	35 a	209417	Snap Ring .....	1
17	375984	Spring Washer .....	1				
18	142	Pin .....	4	a	Monotrol Pedal		
19	15212	Pin .....	4				

## BRAKE (Figure 173)



**BRAKE**

**KEY:**

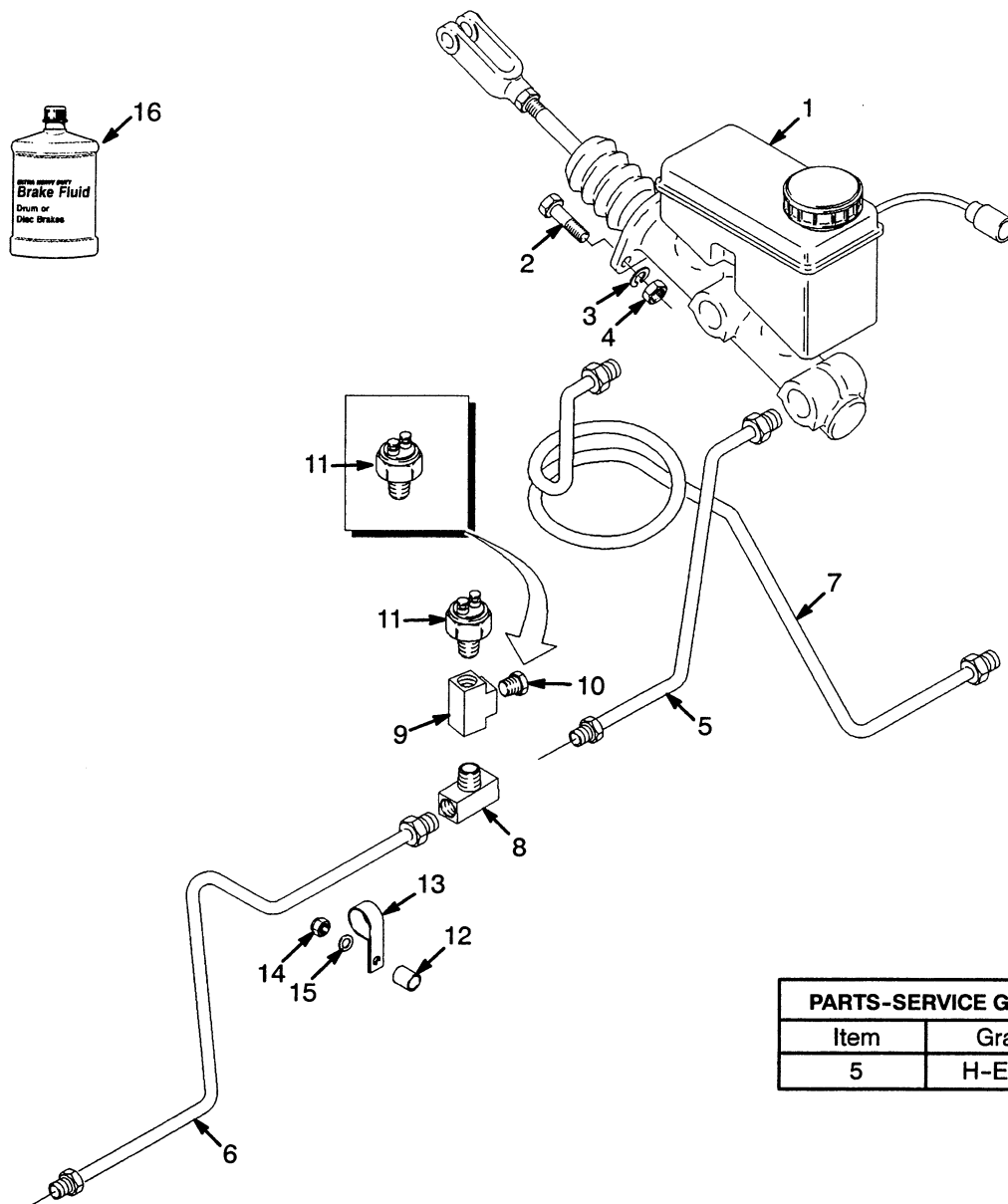
**A: RH Brake**

**B: LH Brake**

REF	PART NO.	NAME OF PART	QTY		REF	PART NO.	NAME OF PART	QTY	
			A	B				A	B
	1338255	Brake .....	1	..	11	1347971	Backing Plate .....	1	..
	1338256	Brake .....	..	1	11	1347970	Backing Plate .....	..	1
1	1334648	Wheel Cylinder .....	1	1	12	1360792	Cable & Fitting Assembly ...	1	1
2	1334647	Kit-Wheel Cylinder .....	1	1	13	1375048	Kit-Parking Brake (LH) .....	..	1
3	1334646	Adjuster .....	..	1	13	1375049	Kit-Parking Brake (RH) .....	1	..
3	1334645	Adjuster .....	1	..	14	1360798	Bolt Assy .....	1	1
4	1379758	Kit (Sheave) .....	1	1	15	1361502	Snap Ring .....	1	1
5	1361504	Cap .....	1	1	16	1361501	Plate .....	1	1
6	1334642	Cover .....	2	2	17	1360793	Spring .....	1	1
7	1358223	Kit-Shoe/Lining .....	1	1	18	1360794	Lever (RH) .....	1	..
8	1334639	Kit-Shoe Hold Down .....	1	1	18	1361505	Lever (LH) .....	..	1
9	1334638	Kit-Spring .....	1	1	19	1361503	Bleeder Screw .....	1	1
10	1358225	Cable (LH Parking) .....	..	1	20	3003343	Brake Cleaner .....	ARAR	
10	1358224	Cable (RH Parking) .....	1	..					



## BRAKE LINES (Figure 174)



PARTS-SERVICE GRAM	
Item	Gram
5	H-E-29

REF	PART NO.	NAME OF PART	QTY
1	.....	Master Cylinder .....	1
		Figure 176	
2	287860	Capscrew .....	2
3	292682	Lockwasher .....	2
4	136692	Nut .....	2
5 <sup>c</sup>	1347113	Tube (RH) .....	1
5 <sup>d</sup>	1381923	Hose Assy .....	1
6	1347091	Tube (RH) .....	1
7	1347090	Tube (LH) .....	1
8	14899	Fitting .....	1
9	12838	Fitting .....	1
10 <sup>a</sup>	14349	Fitting .....	1
11 <sup>a</sup>	387867	Switch .....	1

REF	PART NO.	NAME OF PART	QTY
11 <sup>b</sup>	387867	Switch .....	2
12	1337382	Spacer .....	1
13	1347116	Clamp .....	1
14	302400	Nut .....	1
15	320158	Washer .....	1
16	357956	Brake Fluid (1 Gallon) .....	AR
16	357973	Brake Fluid (1 Quart) .....	AR
16	26758	Brake Fluid (12 Ounces) .....	AR

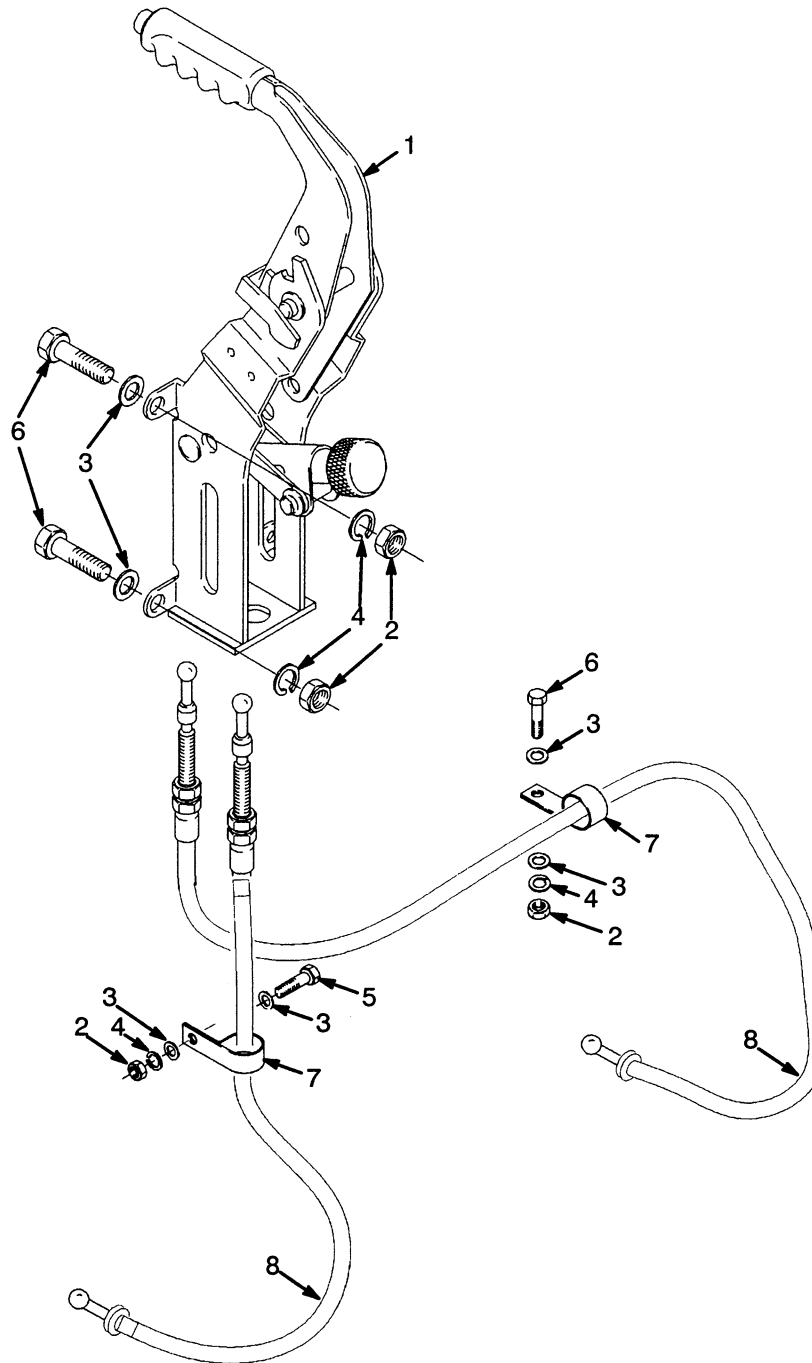
<sup>a</sup> Forward/Reverse Lever

<sup>b</sup> Monotrol Pedal

<sup>c</sup> First Used On S/N D177B-2342

<sup>d</sup> Last Used On S/N D177B-2343

**PARK BRAKE (Figure 175)**

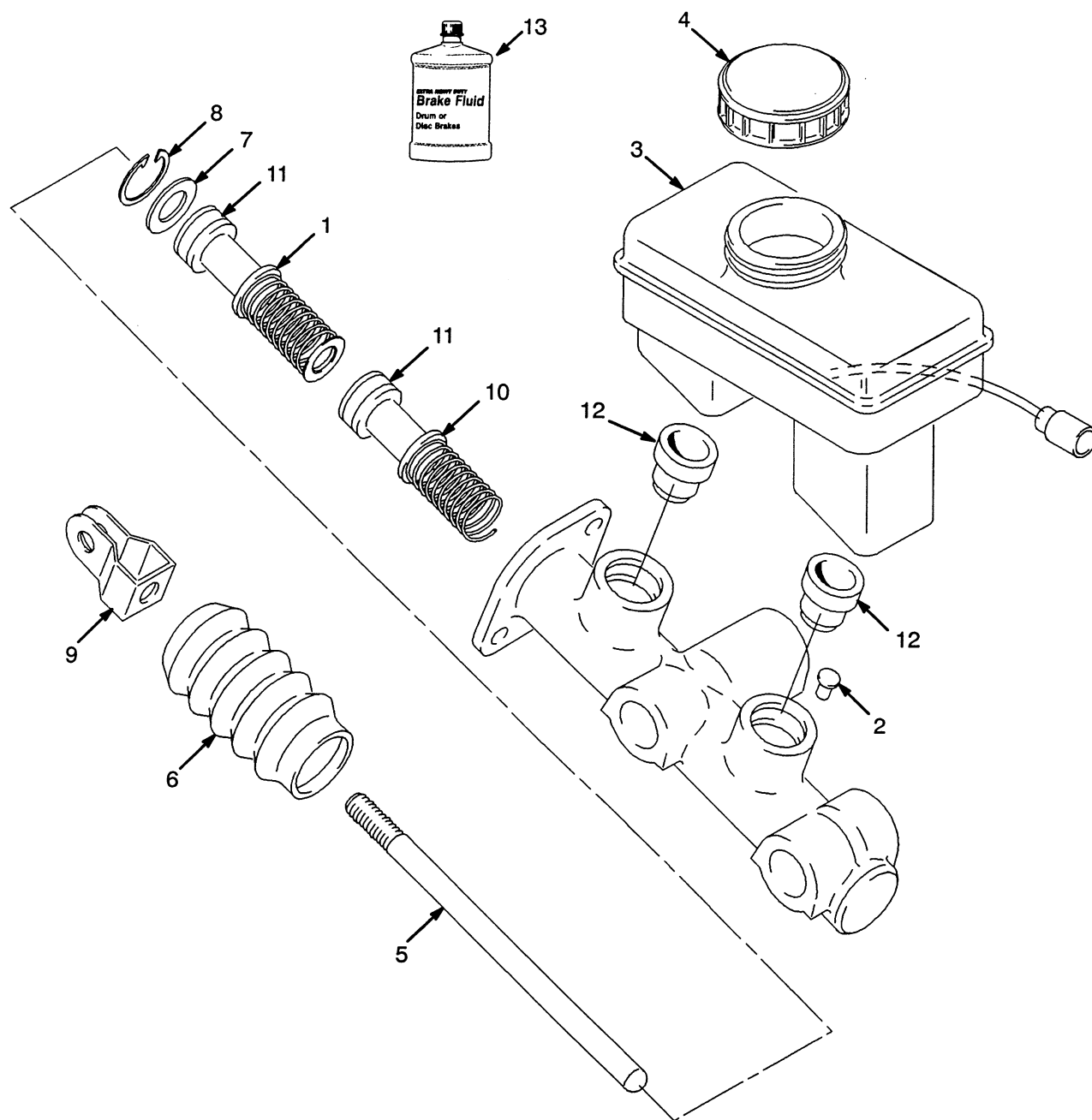


REF	PART NO.	NAME OF PART	QTY
1	1376557	Park Brake .....	1
2	239503	Nut .....	6
3	320157	Washer .....	8
4	292681	Lockwasher .....	6
5	176640	Capscrew .....	1
6	136749	Capscrew .....	5

REF	PART NO.	NAME OF PART	QTY
7	124297	Clamp .....	2
8 <sup>a</sup>	.....	Cable .....	2

<sup>a</sup> Note: Cables Are Included With  
Service Brake Assemblies

## MASTER CYLINDER (Figure 176)



REF	PART NO.	NAME OF PART	QTY
	1347048	Master Cylinder .....	1
1	1357197	Piston .....	1
2	1324029	Pin .....	1
3	1357199	Reservoir .....	1
4	1324048	Cap .....	1
5	1357201	Rod .....	1
6	1324040	Cover .....	1
7	1324041	Washer .....	1
8	1324042	Snap Ring .....	1

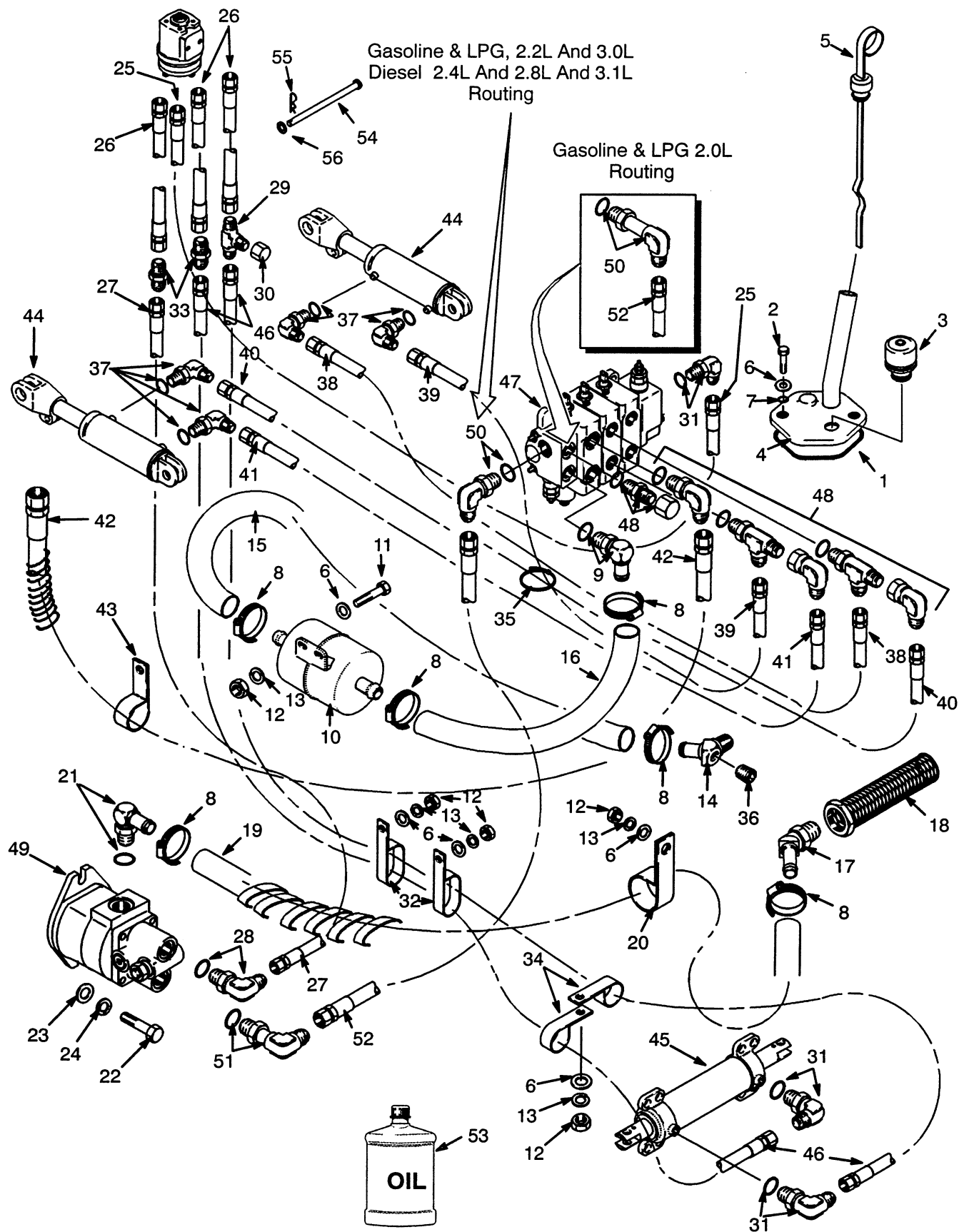
REF	PART NO.	NAME OF PART	QTY
9	1324035	Clevis .....	1
10	1357196	Piston .....	1
11 a	.....	Seal .....	2
12 a	.....	Seal .....	2
13	357956	Brake Fluid (1 Gallon) .....	AR
13	357973	Brake Fluid (1 Quart) .....	AR
13	26758	Brake Fluid (12 Ounces) .....	AR
a	Included In Seal Kit 1355305		

---

**HYDRAULIC SYSTEM**

CONTROL VALVE (Figure 187) THREE FUNCTION .....	Page 342
FLOW VALVE (Figure 182) LAST USED ON S/N D177B-15601 .....	Page 334
FLOW VALVE (Figure 183) FIRST USED ON S/N D177B-15602 .....	Page 335
HYDRAULIC (Figure 177) .....	Page 324
HYDRAULIC PUMP (Figure 178) SINGLE GEAR .....	Page 326
HYDRAULIC PUMP (Figure 179) SINGLE GEAR .....	Page 328
HYDRAULIC PUMP (Figure 180) DOUBLE GEAR .....	Page 330
HYDRAULIC PUMP (Figure 181) DOUBLE GEAR .....	Page 332
TILT CYLINDER (Figure 184) GROUP NUMBER 8601501 .....	Page 337
VALVE ATTACHING PARTS (Figure 185) PUSH AWAY LEVERS .....	Page 338
VALVE ATTACHING PARTS (Figure 186) DIRECT ACTING LEVERS .....	Page 340
VALVE (Figure 188) FOUR FUNCTION .....	Page 344

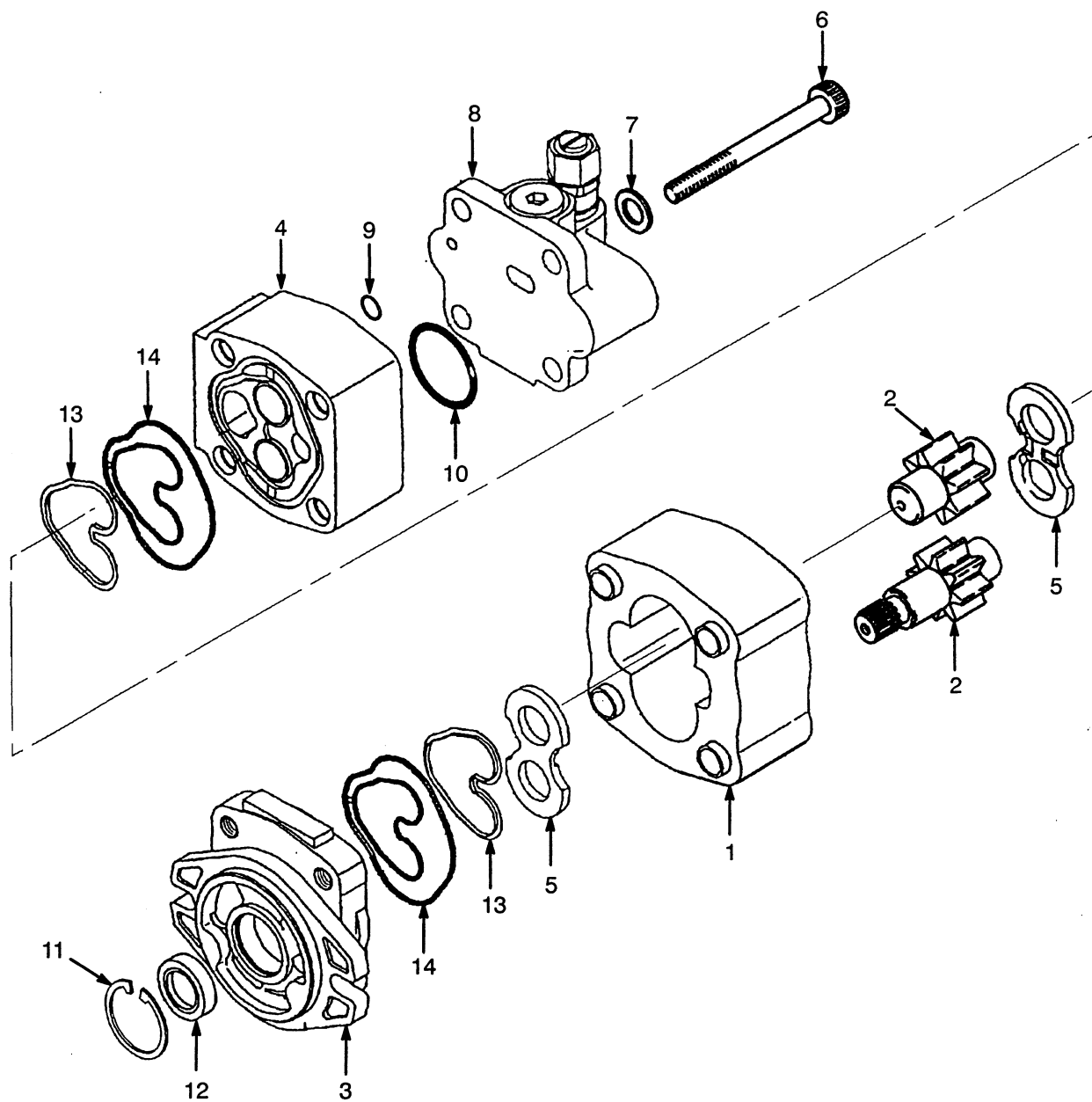
## HYDRAULIC (Figure 177)



**HYDRAULIC**

REF	PART NO.	NAME OF PART	QTY	REF	PART NO.	NAME OF PART	QTY
1	1343449	Seal .....	1	39	1347028	Hose .....	1
2	329067	Screw .....	2	40	1347029	Hose .....	1
3	1356393	Breather .....	1	41	1347030	Hose .....	1
4	1339700	Tank Cover .....	1	42	1351077	Hose .....	1
5	1339647	Dipstick .....	1	43	176452	Clamp .....	1
6	320157	Washer .....	12	44	.....	Tilt Cylinder .....	2
7	353000	O-Ring .....	2			☞ Figure 184	
8	127045	Clamp .....	6	45	.....	Steering Cylinder .....	1
9	1343452	Fitting .....	1			☞ Figure 171	
10	1337159	Filter .....	1	46 <sup>e</sup>	1350234	Hose .....	2
11	136749	Capscrew .....	2	46 <sup>f</sup>	1382316	Hose .....	2
12	239503	Nut .....	8	47	.....	Control Valve .....	1
13	292681	Lockwasher .....	8			☞ Figure 187, Figure 188	
14	1343560	Fitting .....	1	48	.....	Fittings .....	..
15	1367431	Hose .....	1			☞ Figure 185, Figure 186	
16	878574	Hose .....	1	49	.....	Hydraulic Pump .....	1
17	222477	Fitting .....	1			☞ Figure 178, Figure 180	
18	1328680	Suction Screen .....	1	50 <sup>a</sup>	1352157	Fitting .....	1
19	1339791	Suction Hose .....	1	50 <sup>b</sup>	16560	Fitting .....	1
20	335047	Clamp .....	1	50 <sup>b</sup>	16485	O-Ring .....	1
21	1350273	Fitting .....	1	51 <sup>c</sup>	222413	Fitting .....	1
22	1356103	Screw .....	2	51 <sup>c</sup>	16485	O-Ring .....	1
23	292682	Lockwasher .....	2	51 <sup>d</sup>	16560	Fitting .....	1
24	320159	Washer .....	2	51 <sup>d</sup>	16485	O-Ring .....	1
25	1347156	Hose .....	1	52	1361584	Hose (Diesel) .....	1
26 <sup>e</sup>	278510	Hose .....	3	52	1351140	Hose (Gas & LPG) .....	1
26	78010	Hose .....	3	53	3021203	Hydraulic Oil 55 Gallon .....	AR
27 <sup>e</sup>	171098	Hose .....	1	54	1352616	Pin .....	1
27 <sup>f</sup>	168389	Hose .....	1	55	18824	Pin .....	1
28	110174	Fitting .....	1	56	320156	Washer .....	1
28	16484	O-Ring .....	1				
29	1347212	Fitting .....	1	<sup>a</sup>	Used With Gasoline & LPG 2.0L		
30	16923	Fitting .....	1	<sup>b</sup>	Used With Gasoline & LPG 2.2L & 3.0L And All Diesel		
31	16558	Fitting .....	3	<sup>c</sup>	Used With All Gasoline & LPG (Single Gear Pump)		
31	16484	O-Ring .....	3	<sup>d</sup>	Used With All Gasoline & LPG (Double Gear Pump) And All Diesel		
32	110322	Clamp .....	2	<sup>e</sup>	Last Used On S/N D177B-23279		
33	14691	Fitting .....	2	<sup>f</sup>	First Used On S/N D177B-23280		
34	101625	Clamp .....	2	<sup>g</sup>	First Used On S/N D177B-23280 Thru S/N Pending Per ECN 59560-25		
35	137852	Clamp .....	3				
36	15347	Fitting .....	1				
37	16556	Fitting .....	4				
37	16481	O-Ring .....	4				
38	1347027	Hose .....	1				

## HYDRAULIC PUMP (Figure 178) SINGLE GEAR



## HYDRAULIC PUMP SINGLE GEAR

**KEY:**

**A:** Gasoline And LPG 2.0L, 2.2L, And Gasoline 3.0L, And Diesel 2.4L

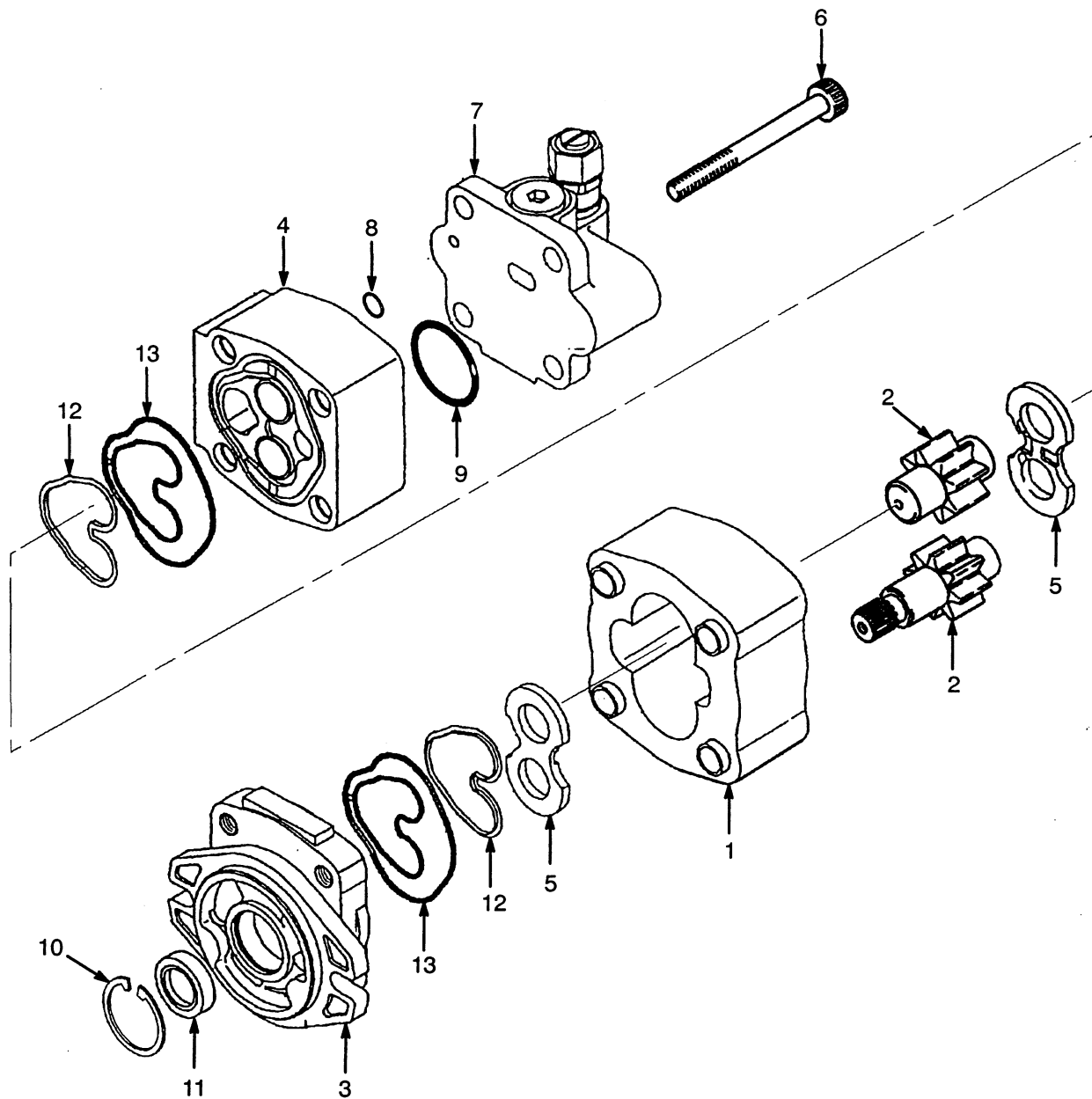
**B:** Diesel 2.8L And 3.1L

**C:** LPG 3.0L

						QTY									QTY		
REF	PART NO.	NAME OF PART	A	B	C	REF	PART NO.	NAME OF PART	A	B	C	REF	PART NO.	NAME OF PART	A	B	C
a	1335922	Hydraulic Pump .....	1	..	..	7	1352049	Washer .....	4	4	4						
b	1375160	Hydraulic Pump .....	1	..	..	8	....	Flow Valve .....	1	1	1						
a	1335924	Hydraulic Pump .....		1	..			☞ Figure 182									
b	1375162	Hydraulic Pump .....		1	..	9	c	....	O-Ring .....	1	1	1					
d	1375161	Hydraulic Pump .....		..	1	10	c	....	O-Ring .....	1	1	1					
1	....	Gear Plate .....	1	1	1	11	c	....	Snap Ring .....	1	1	1					
2	1377266	Gear Set .....	1	..	..	12	c	....	Oil Seal .....	1	1	1					
2	1377265	Gear Set .....		1	..	13	c	....	Back-Up Ring .....	2	2	2					
2	1377264	Gear Set .....		..	1	14	c	....	Plate Seal .....	2	2	2					
3	1352040	Flange .....	1	1	1												
4	1352041	Cover .....	1	1	1	a		Last Used On S/N D177B-15601									
5	1352042	Pressure Plate .....	2	2	2	b		First Used On S/N D177B-15602									
6	1352048	Screw .....	4	..	..	c		Included In Seal Kit 1352463									
6	1352453	Screw .....		4	..	d		First Used On S/N D177B-39472									
6	1352456	Screw .....		..	4												



## HYDRAULIC PUMP (Figure 179) SINGLE GEAR



## HYDRAULIC PUMP SINGLE GEAR

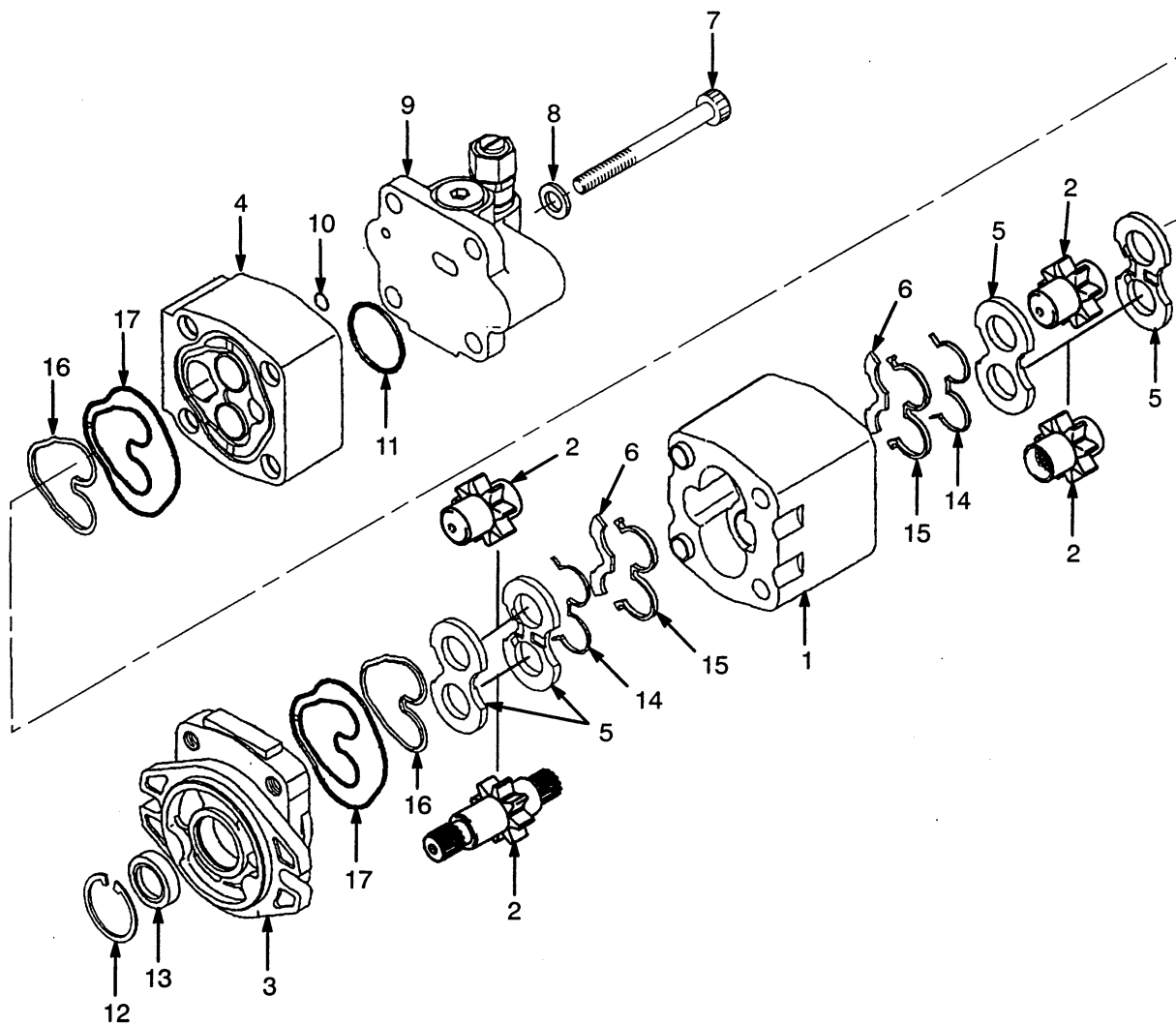
**KEY:**

**A:** Gasoline And LPG 2.0L, And Gasoline 3.0L

**B:** LPG 3.0L

REF	PART NO.	NAME OF PART	QTY		REF	PART NO.	NAME OF PART	QTY	
			A	B				A	B
	1455404	Hydraulic Pump .....	1	..	7		Flow Valve .....	1	1
	1455405	Hydraulic Pump .....	..	1			Figure 183		
1	....	Gear Plate .....	1	1	8	<b>a</b>	O-Ring .....	1	1
2	1377266	Gear Set .....	1	..	9	<b>a</b>	O-Ring .....	1	.1
2	1377264	Gear Set .....	..	1	10	<b>a</b>	Snap Ring .....	1	1
3	1458802	Flange .....	1	1	11	<b>a</b>	Oil Seal .....	1	1
4	1458803	Cover .....	1	1	12	<b>a</b>	Back-Up Ring .....	2	.2
5	1458804	Pressure Plate .....	2	2	13	<b>a</b>	Plate Seal .....	2	2
6	1458813	Screw .....	4	..	<b>a</b> Included In Seal Kit 1352463				
6	1458805	Screw .....	..	4					

## HYDRAULIC PUMP (Figure 180) DOUBLE GEAR



## HYDRAULIC PUMP DOUBLE GEAR

**KEY:**

**A:** Gasoline And LPG 2.0L, 2.2L, And Gasoline 3.0L, And Diesel 2.4L

**B:** Diesel 2.8L And 3.1L

**C:** LPG 3.0L

QTY						QTY						
REF	PART NO.	NAME OF PART	A	B	C	REF	PART NO.	NAME OF PART	A	B	C	
a	1350236	Hydraulic Pump .....	1	..	..	8	1352049	Washer .....	4	4	4	
b	1375163	Hydraulic Pump .....	1	..	..	9	....	Flow Valve .....	1	1	1	
a	1350238	Hydraulic Pump .....	1	..	..	☞ Figure 182, Figure 183						
b	1375165	Hydraulic Pump .....	1	..	..	10	c	....	O-Ring .....	1	1	1
d	1375164	Hydraulic Pump .....	..	1	..	11	c	....	O-Ring .....	1	1	1
1	....	Gear Plate .....	1	1	1	12	c	....	Snap Ring .....	1	1	1
2	1377267	Gear Set .....	1	..	..	13	c	....	Oil Seal .....	1	1	1
2	1377269	Gear Set .....	1	..	..	14	c	....	Back-Up Ring .....	2	2	2
2	1377268	Gear Set .....	..	1	..	15	c	....	Seal .....	2	2	2
3	1354746	Flange .....	1	1	1	16	c	....	Back-Up Ring .....	2	2	2
4	1352041	Cover .....	1	1	1	17	c	....	Seal .....	2	2	2
5	1354748	Pressure Plate .....	4	4	4							
6	1352470	Isolation Plate .....	2	2	2	a	Last Used On S/N D177B-15601					
7	1352472	Screw .....	4	..	..	b	First Used On S/N D177B-15602 And All 3.0L					
7	1352471	Screw .....	4	..	..	c	Included In Seal Kit 1352465					
7	1352482	Screw .....	..	4	..	d	First Used ON S/N D177B-29472					

This exploded view diagram illustrates the assembly of a hydraulic pump. The components are numbered as follows:

- 1**: Main pump housing.
- 2**: Two mounting brackets or pins.
- 3**: Two cylindrical components, likely pistons or rollers.
- 4**: A cross-shaped internal component.
- 5**: Two crescent-shaped components, likely vanes or seals.
- 6**: Two crescent-shaped components, likely vanes or seals.
- 7**: A circular component, likely a bearing or seal.
- 8**: A circular component, likely a bearing or seal.
- 9**: A circular component, likely a bearing or seal.
- 10**: A long threaded bolt.
- 11**: A mounting bracket or plate.
- 12**: A circular component, likely a bearing or seal.
- 13**: A circular component, likely a bearing or seal.
- 14**: A circular component, likely a bearing or seal.

## HYDRAULIC PUMP DOUBLE GEAR

**KEY:**

**A:** Gasoline And LPG 2.0L, 2.2L, And Gasoline 3.0L, And Diesel 2.4L

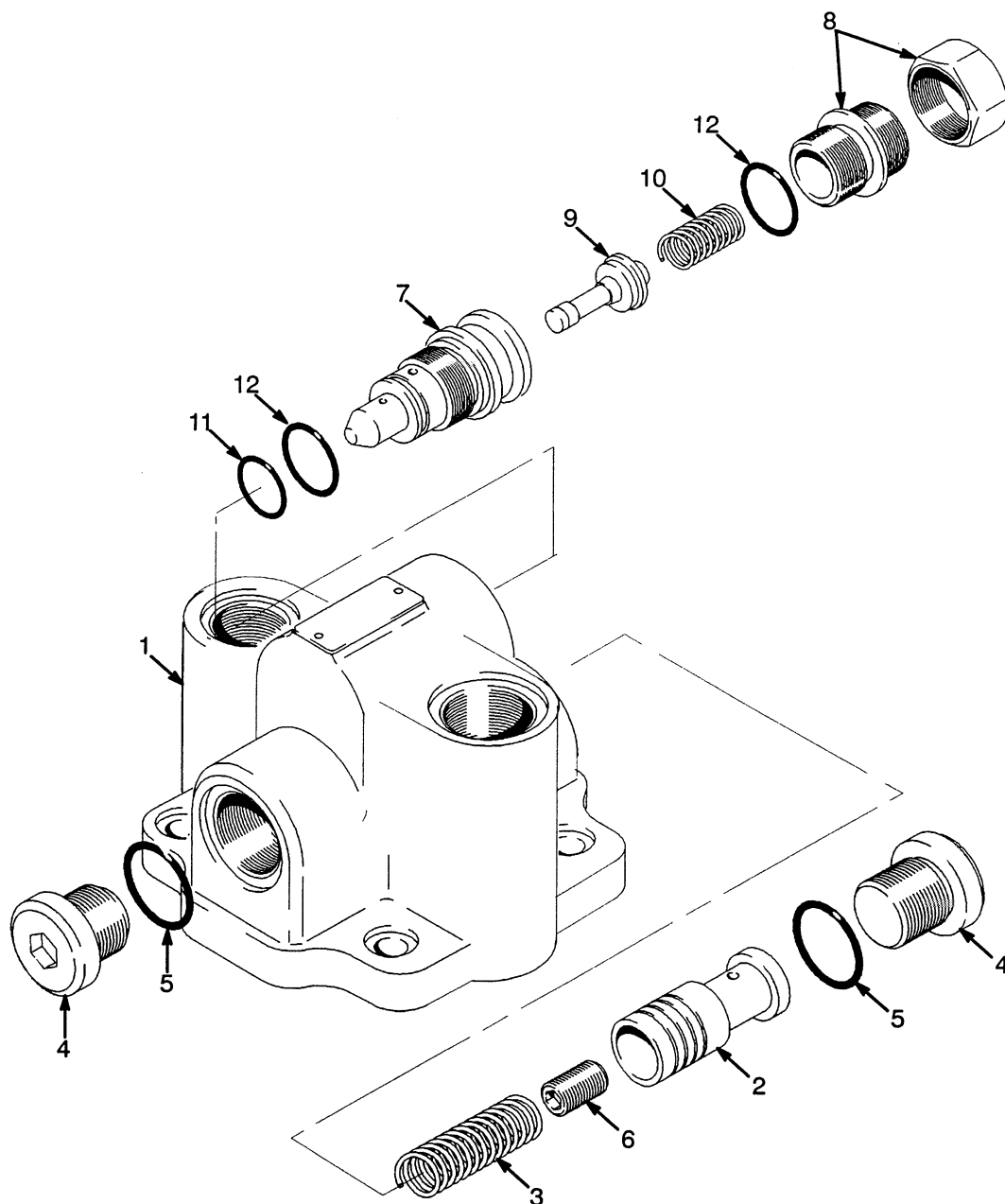
**B:** Diesel 2.8L And 3.1L

**C:** LPG 3.0L

REF	PART NO.	NAME OF PART	QTY			REF	PART NO.	NAME OF PART	QTY		
			A	B	C				A	B	C
	1456472	Hydraulic Pump .....	1	..	..	8	<sup>a</sup> .....	Oil Seal .....	1	1	1
	1456474	Hydraulic Pump .....	1	..	..	9	<sup>a</sup> .....	Snap Ring .....	1	1	1
	1456473	Hydraulic Pump .....	..	1	1	10	1458818	Screw .....	4	..	..
1	....	Gear Plate .....	1	1	1	10	1458823	Screw .....	4	..	..
2	1458814	Gear Set .....	1	..	..	10	1458811	Screw .....	..	4	..
2	1458819	Gear Set .....	1	..	..	11		Flow Valve .....	1	1	1
2	1458806	Gear Set .....	..	1	1			Figure 182, Figure 183			
3	....	Bush .....	2	2	2	12	<sup>a</sup> .....	O-Ring .....	1	1	1
4	1458804	Pressure Plate .....	2	2	2	13	<sup>a</sup> .....	O-Ring .....	1	1	1
5	<sup>a</sup> ....	Back-Up Ring .....	2	2	2	14	1458803	Cover .....	1	1	1
6	<sup>a</sup> ....	Seal .....	2	2	2						
7	1458810	Flange .....	1	1	1		<sup>a</sup>	Included In Seal Kit 1352463			

## FLOW VALVE (Figure 182)

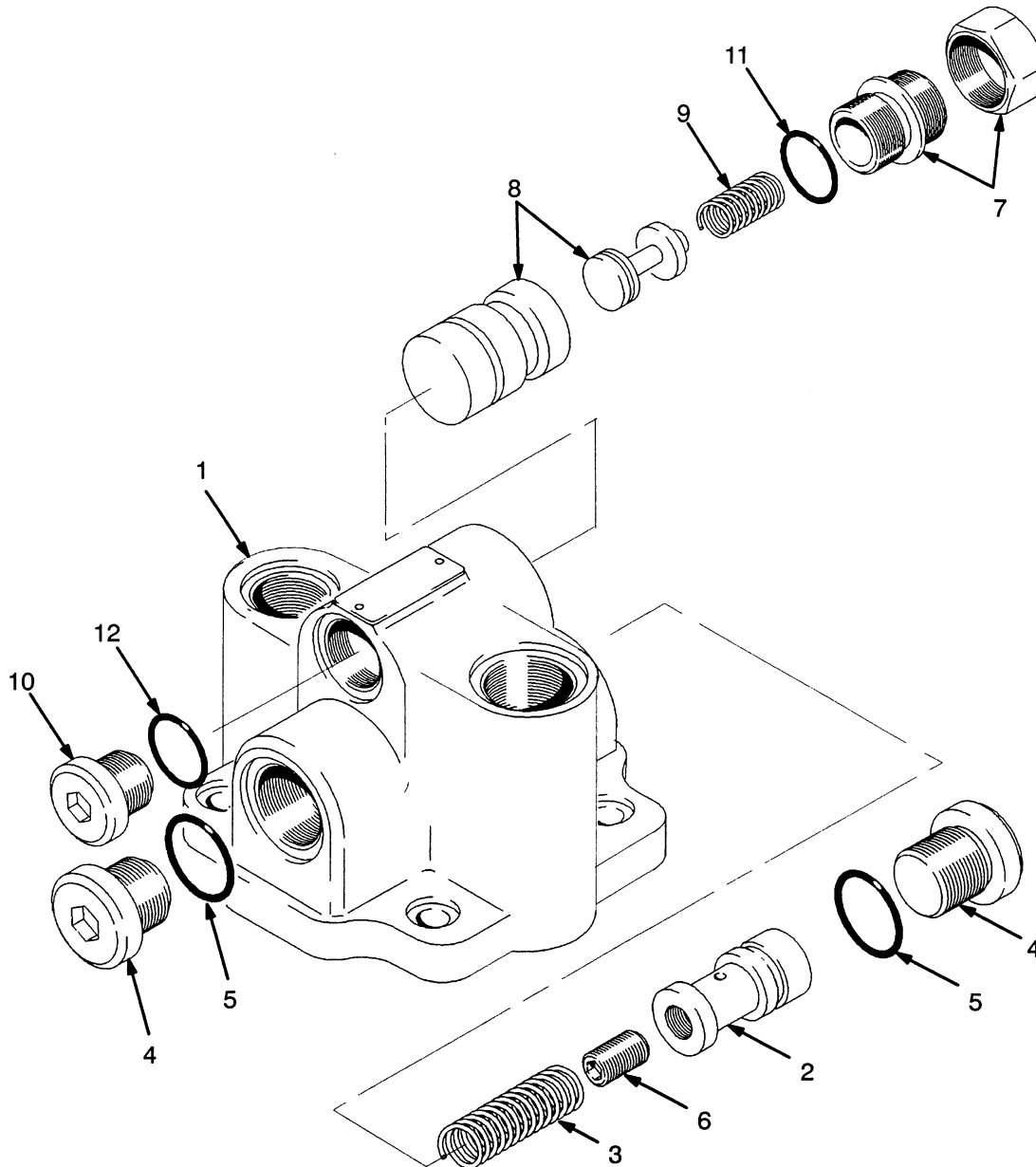
LAST USED ON S/N D177B-15601



REF	PART NO.	NAME OF PART	QTY
	1352036	Valve .....	1
1	.....	Body .....	1
2	.....	Plunger .....	1
3	321797	Spring .....	1
4	321792	Plug .....	2
5	16485	O-Ring .....	2
6	1328822	Plug .....	1
7	1352032	Relief Valve .....	1

REF	PART NO.	NAME OF PART	QTY
8	1328824	Kit-Adjuster .....	1
9	.....	Poppet .....	1
10	1328826	Spring .....	1
11	<sup>a</sup> 1328828	O-Ring .....	1
12	<sup>a</sup> 1328829	O-Ring .....	2
<sup>a</sup> Included In Seal Kit 1337626			

**FLOW VALVE (Figure 183)**  
**FIRST USED ON S/N D177B-15602**



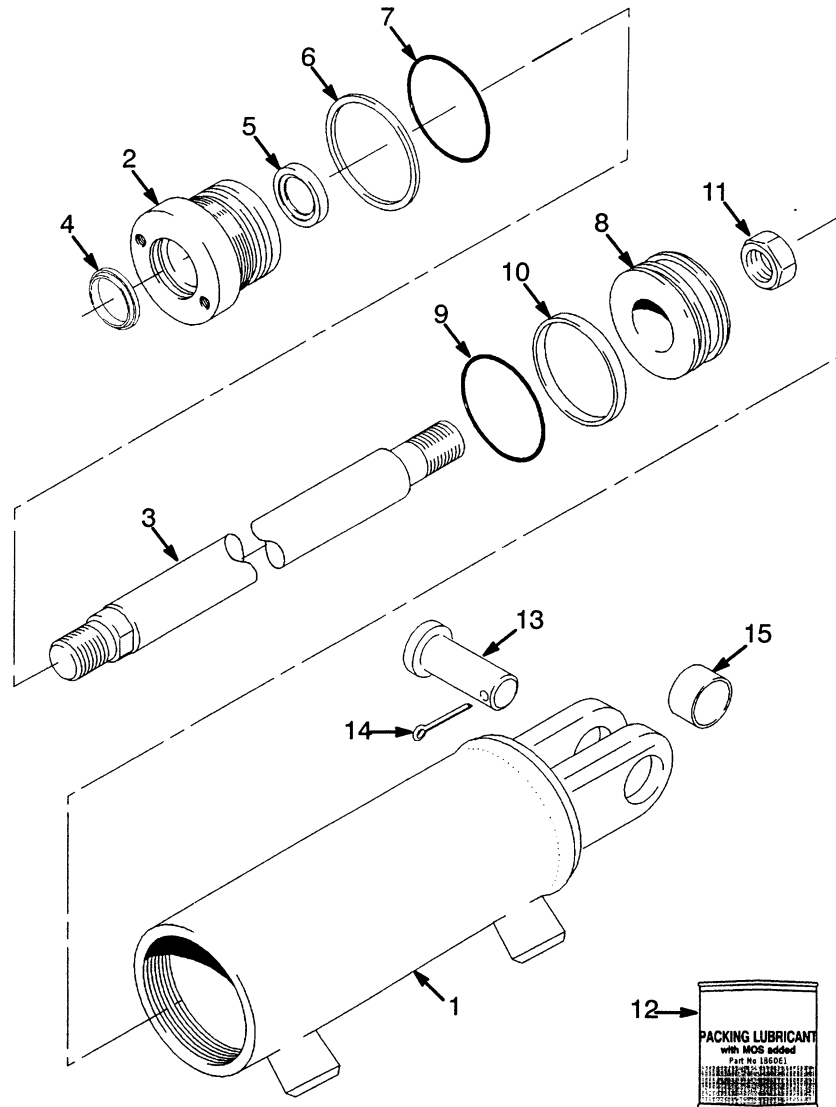
REF	PART NO.	NAME OF PART	QTY	REF	PART NO.	NAME OF PART	QTY
	1377255	Valve .....	1	8	.....	Housing .....	1
1	.....	Body .....	1	8	.....	Poppet .....	1
2	.....	Plunger .....	1	9	1377257	Spring .....	1
3	321797	Spring .....	1	10	342703	Plug .....	1
4	321792	Plug .....	2	11 <sup>a</sup>	1377259	O-Ring .....	1
5 <sup>a</sup>	16485	O-Ring .....	2	12 <sup>a</sup>	1377260	O-Ring .....	1
6	1328822	Plug .....	1				
7	1377256	Adjuster Kit .....	1				
8	1377261	Kit-B .....	1				

<sup>a</sup> Included In Seal Kit 1377258



## This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

**TILT CYLINDER (Figure 184)**  
**GROUP NUMBER 8601501**

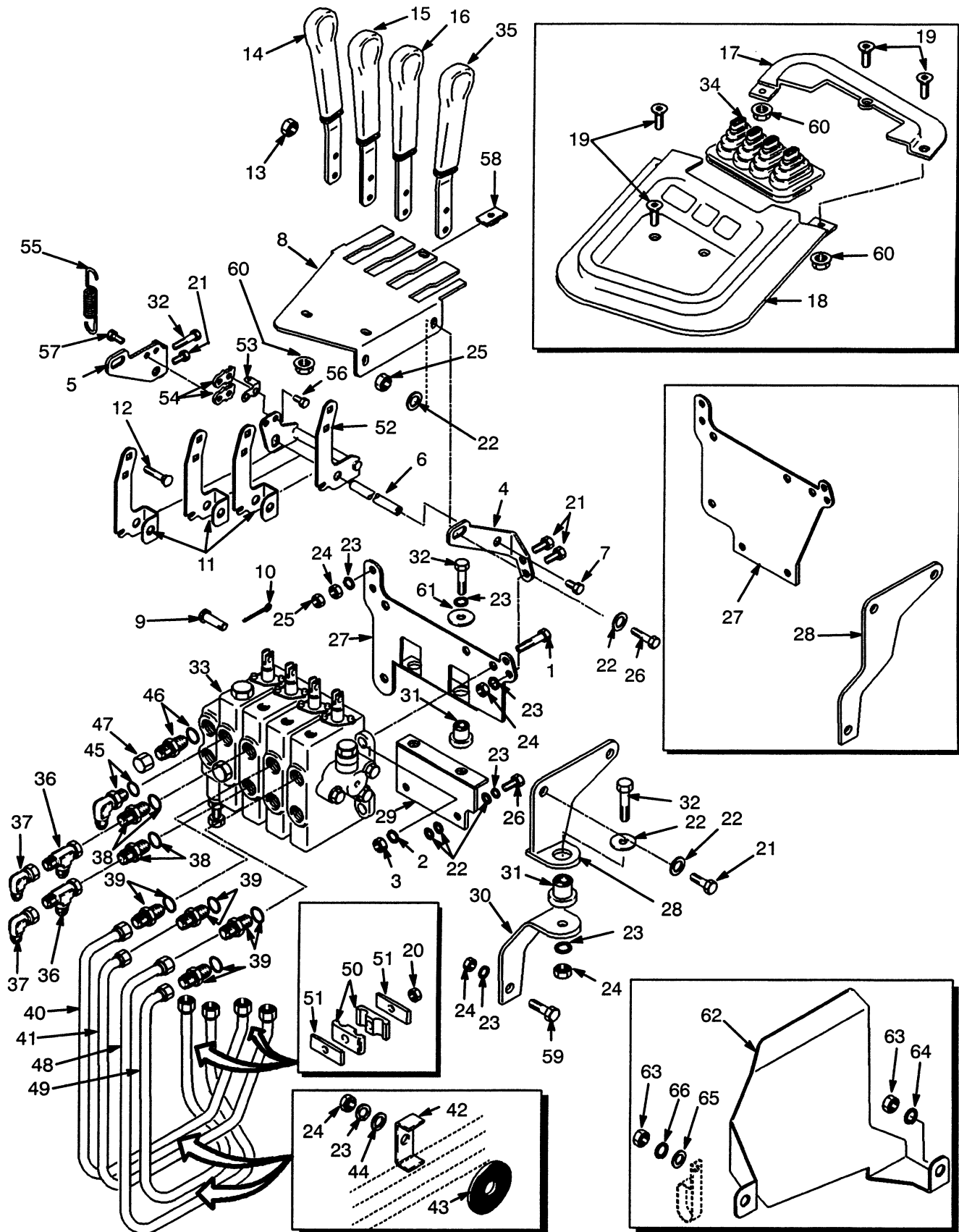


REF	PART NO.	NAME OF PART	QTY
	1338742	Tilt Cylinder .....	1
1	1338743	Shell .....	1
2	1338744	Gland .....	1
3	1338740	Piston Rod .....	1
4 <sup>a</sup>	1338739	Wiper Ring .....	1
5 <sup>a</sup>	637151	Seal .....	1
6 <sup>a</sup>	154375	Back-Up Ring .....	1
7 <sup>a</sup>	46388	O-Ring .....	1
8	1338741	Piston .....	1

REF	PART NO.	NAME OF PART	QTY
9 <sup>a</sup>	59583	O-Ring .....	1
10 <sup>a</sup>	293922	Seal Ring .....	1
11	2302899	Nut .....	1
12	186061	Lubricant .....	AR
13	1345354	Pin-Rod End .....	2
14	15236	Pin .....	2
15	300982	Bushing .....	2

<sup>a</sup> Included In Seal Kit 1356746

## VALVE ATTACHING PARTS (Figure 185) PUSH AWAY LEVERS



## VALVE ATTACHING PARTS

### PUSH AWAY LEVERS

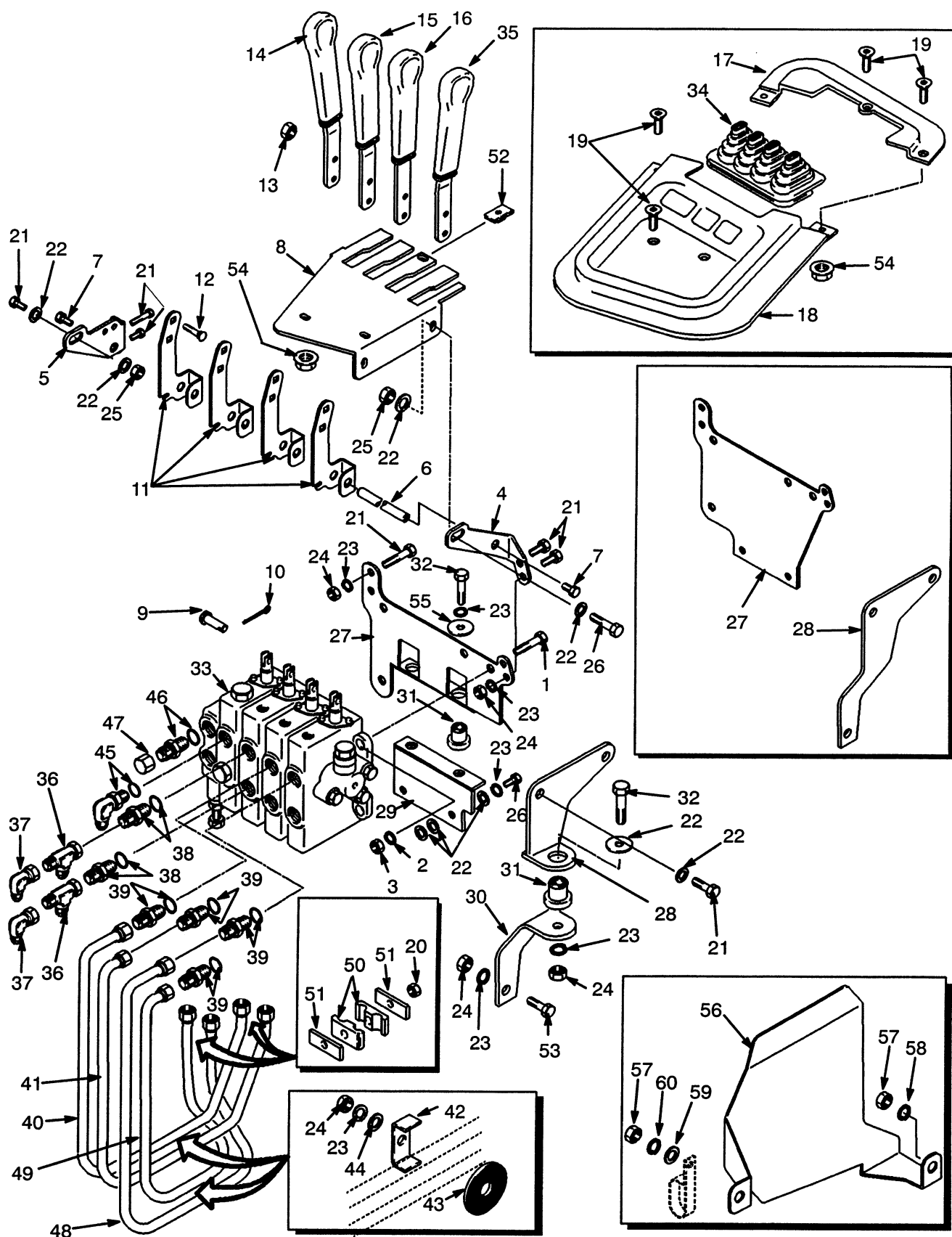
**KEY:**

**A:** Three Function

**B:** Four Function

REF	PART NO.	NAME OF PART	QTY		REF	PART NO.	NAME OF PART	QTY	
			A	B				A	B
1	287860	Capscrew .....	3	3	36	17059	Fitting .....	2	2
2	292682	Lockwasher .....	3	3	37	16987	Fitting .....	2	2
3	136692	Nut .....	3	3	38	222381	Fitting .....	2	2
4	1339723	Bracket, RH .....	1	1	38	16484	O-Ring .....	2	2
5	1339724	Bracket, LH .....	1	1	39	16541	Fitting .....	2	4
6	1343443	Pivot .....	1	1	39	16484	O-Ring .....	2	4
7	1328930	Capscrew .....	2	2	40	1343461	Tube .....	1	1
8	1339702	Panel .....	1	1	41	1343481	Tube .....	1	1
8 a	1361101	Panel .....	1	1	42	1343531	Clamp .....	1	2
9	309109	Pin .....	3	4	43	1347112	Washer (Rubber) .....	1	2
10	15200	Cotter Pin .....	3	4	44	320157	Washer .....	2	4
11	1339749	Crank .....	2	3	45	17197	Fitting .....	1	1
12	308980	Bolt .....	6	8	45	16484	O-Ring .....	1	1
13	316834	Nut .....	6	8	46	17756	Fitting .....	1	1
14	1339725	Handlever (Lift) .....	1	1	46	16485	O-Ring .....	1	1
15	1339727	Handlever (Tilt) .....	1	1	47	16923	Fitting .....	1	1
16	1339729	Handlever (3rd Function) ....	1	1	48 d	1343482	Tube Assy .....	..	1
17	1338292	Cover .....	1	1	48 e	1379506	Tube Assy .....	..	1
18	1339300	Cover .....	1	1	49 d	1343484	Tube .....	..	1
18 a	1361102	Cover .....	1	1	49 e	1379507	Tube .....	..	1
19	1339793	Screw .....	5	5	50	1359620	Clamp .....	2	4
20	316835	Locknut .....	1	2	51	1361142	Plate .....	2	4
21	136749	Capscrew .....	8	8	52	1339770	Crank .....	1	..
21 b	136749	Capscrew .....	6	6	52	1339748	Crank .....	..	1
22	320158	Washer .....	8	8	53	1339746	Plate .....	1	1
22 b	221733	Washer .....	5	5	54	1339745	Plate .....	2	2
23	292681	Lockwasher .....	11	11	55	1339713	Spring .....	1	1
23 b	292681	Lockwasher .....	13	14	56	293612	Capscrew .....	2	2
24	239503	Nut .....	9	9	57	293611	Capscrew .....	2	2
24 b	239503	Nut .....	9	10	58	1350215	Nut .....	1	1
25	313828	Nut .....	4	4	59	136681	Capscrew .....	1	1
26	176640	Capscrew .....	1	1	59 b	136681	Capscrew .....	2	2
26 b	176640	Capscrew .....	3	3	60	1452270	Nut .....	4	4
27	1339737	Bracket .....	1	1	61 b	221733	Washer .....	3	3
27 b	1351047	Bracket .....	1	1	62 c	1373819	Heat Shield .....	1	1
28	1339715	Strut .....	1	1	63	239503	Nut .....	2	2
28 b	1351048	Strut .....	1	1	64 c	320157	Washer .....	1	1
29 b	1351049	Bracket .....	1	1	65	320158	Washer .....	2	2
30 b	1351043	Plate .....	1	1	66	292681	Lockwasher .....	1	1
31 b	1351064	Mount .....	3	3					
32 b	132861	Capscrew .....	4	4	a	Used With Types GS, LPS & DS			
33	....	Control Valve .....	1	1	b	Used With Diesel 2.8L & 3.1L			
		☞ Figure 187, Figure 188			c	Gasoline & LPG 2.0L			
34	1339799	Boot .....	1	..	d	Last Used On S/N D177B-16576			
34	1339636	Boot .....	..	1	e	First Used On S/N D177B-16577			
35	1339731	Handlever (4th Function) .....	..	1					

## VALVE ATTACHING PARTS (Figure 186) DIRECT ACTING LEVERS



## VALVE ATTACHING PARTS

### DIRECT ACTING LEVERS

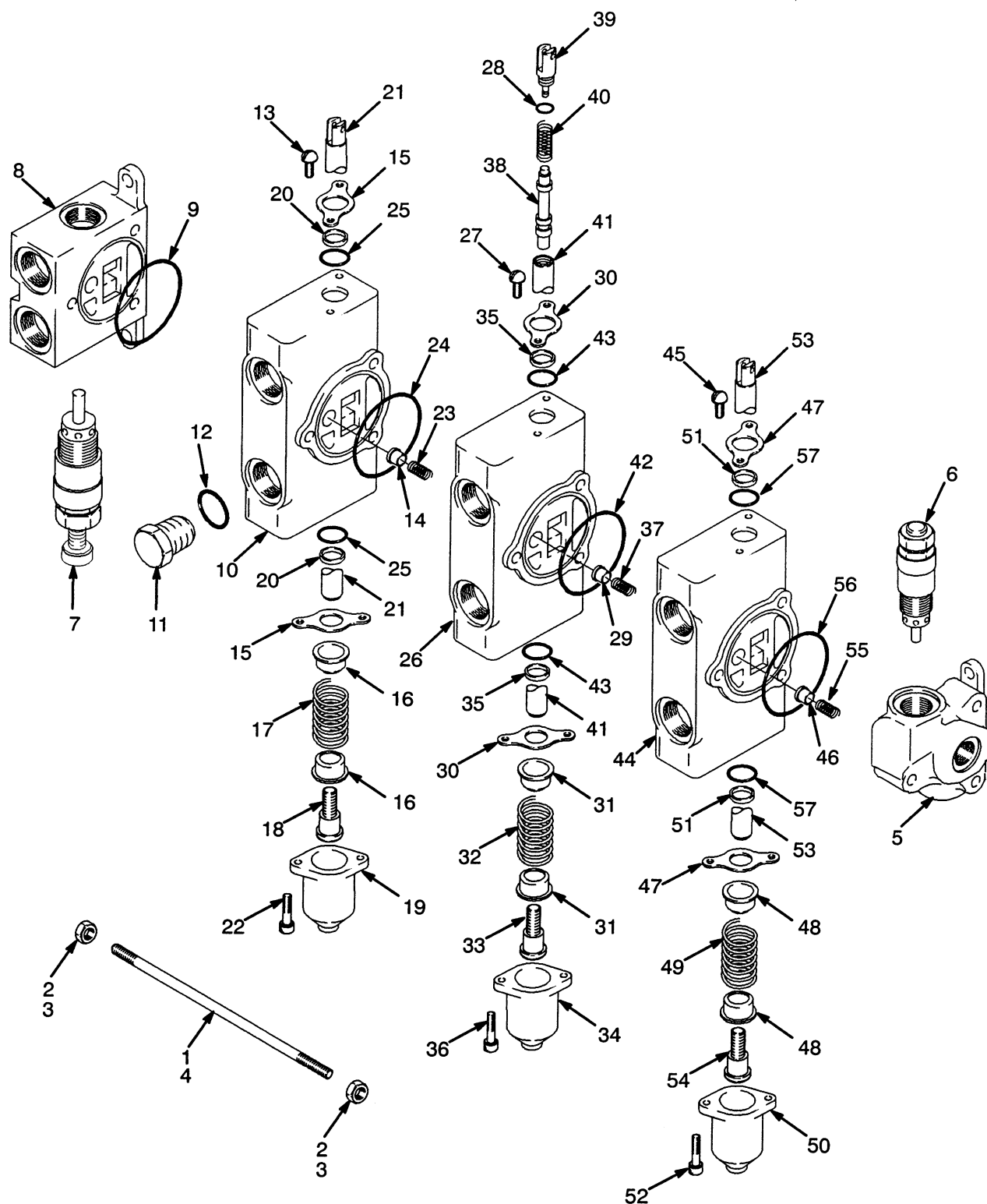
**KEY:**

**A:** Three Function

**B:** Four Function

REF	PART NO.	NAME OF PART	QTY		REF	PART NO.	NAME OF PART	QTY	
			A	B				A	B
1	287860	Capscrew .....	3	3	33	.....	Control Valve .....	1	1
2	292682	Lockwasher .....	3	3			Figure 187, Figure 188		
3	136692	Nut .....	3	3	34	1339799	Boot .....	1	..
4	1339723	Bracket, RH .....	1	1	34	1339636	Boot .....	..	1
5	1339724	Bracket, LH .....	1	1	35	1339731	Handlever (4th Function) .....	..	1
6	1343443	Pivot .....	1	1	36	17059	Fitting .....	2	2
7	1328930	Capscrew .....	2	2	37	16987	Fitting .....	2	2
8	1339702	Panel .....	1	1	38	222381	Fitting .....	2	2
8 a	1361101	Panel .....	1	1	38	16484	O-Ring .....	2	2
9	309109	Pin .....	3	4	39	16541	Fitting .....	2	4
10	15200	Cotter Pin .....	3	4	39	16484	O-Ring .....	2	4
11	1339749	Crank .....	3	4	40	1343461	Tube .....	1	1
12	308980	Bolt .....	6	8	41	1343481	Tube .....	1	1
13	316834	Nut .....	6	8	42	1343531	Clamp .....	1	2
14	1339725	Handlever (Lift) .....	1	1	43	1347112	Washer (Rubber) .....	1	2
15	1339727	Handlever (Tilt) .....	1	1	44	320157	Washer .....	2	4
16	1339729	Handlever (3rd Function) ....	1	1	45	17197	Fitting .....	1	1
17	1338292	Cover .....	1	1	45	16484	O-Ring .....	1	1
18	1339300	Cover .....	1	1	46	17756	Fitting .....	1	1
18 a	1361102	Cover .....	1	1	46	16485	O-Ring .....	1	1
19	1339793	Screw .....	5	5	47	16923	Fitting .....	1	1
20	316835	Locknut .....	1	2	48 d	1343482	Tube Assy .....	..	1
21	136749	Capscrew .....	8	8	48 e	1379506	Tube Assy .....	..	1
21 b	136749	Capscrew .....	6	6	49 d	1343484	Tube .....	..	1
22	320158	Washer .....	8	8	49 e	1379507	Tube .....	..	1
22 b	221733	Washer .....	5	5	50	1359620	Clamp .....	2	4
23	292681	Lockwasher .....	9	11	51	1361142	Plate .....	2	4
23 b	292681	Lockwasher .....	13	14	52	1350215	Nut .....	1	1
24	239503	Nut .....	7	9	53	136681	Capscrew .....	1	1
24 b	239503	Nut .....	9	10	53 b	136681	Capscrew .....	2	2
25	313828	Nut .....	3	3	54	1452270	Nut .....	4	4
26	176640	Capscrew .....	1	1	55 b	221733	Washer .....	3	3
26 b	176640	Capscrew .....	3	3	56 c	1373819	Heat Shield .....	1	1
27	1339737	Bracket .....	1	1	57	239503	Nut .....	2	2
27 b	1351047	Bracket .....	1	1	58 c	320157	Washer .....	1	1
28	1339715	Strut .....	1	1	59	320158	Washer .....	2	2
28 b	1351048	Strut .....	1	1	60	292681	Lockwasher .....	1	1
29 b	1351049	Bracket .....	1	1					
30 b	1351043	Plate .....	1	1	a	Used With Types GS, LPS & DS			
31 b	1351064	Mount .....	3	3	b	Used With Diesel 2.8L & 3.1L			
32 b	132861	Capscrew .....	3	3	c	Gasoline & LPG 2.0L			
					d	Last Used On S/N D177B-15153			
					e	First Used On S/N D177B-15154			

## CONTROL VALVE (Figure 187) THREE FUNCTION

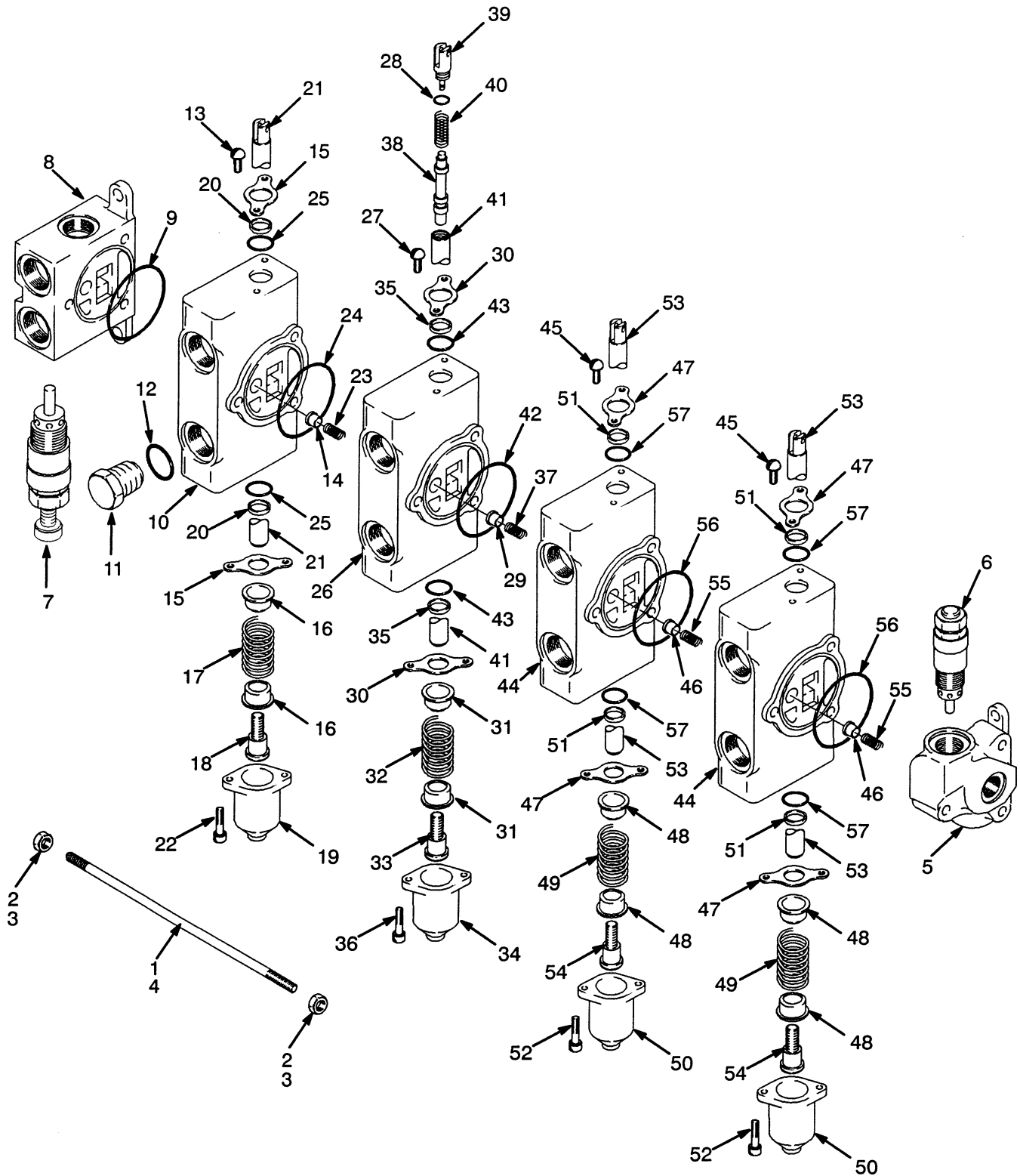


## CONTROL VALVE THREE FUNCTION

REF	PART NO.	NAME OF PART	QTY	REF	PART NO.	NAME OF PART	QTY
a	1337104	Control Valve .....	1	29	205120	Poppet .....	1
b	2033502	Control Valve .....	1	30	205121	Seal Plate .....	2
1	1350707	Rod .....	1	31	188516	Spring Seat .....	1
2	188534	Nut .....	2	32	385855	Spring .....	1
3	15055	Nut .....	4	33	188518	Spool End .....	1
4	1350706	Rod .....	2	34	188519	Cap .....	1
5a	1357356	Outlet Section .....	1	35	205122	Wiper .....	2
5b	1451092	Outlet Section .....	1	36	12949	Capscrew .....	2
6	378424	Relief Valve .....	1	37	205123	Spring .....	1
6	1309419	Kit-Seal .....	1	38	.....	Piston .....	1
7	350485	Relief Valve .....	1	39	1357364	Piston End .....	1
7	1357369	Kit-Seal .....	1	40	341462	Spring .....	1
8	1357352	Inlet Section .....	1	41	.....	Spool .....	1
9	57664	O-Ring .....	1	42	57664	O-Ring .....	1
10	1357354	Spool Section .....	1	43	1357361	O-Ring .....	2
11	199524	Plug .....	1	44	1357353	Spool Section .....	1
12	16484	O-Ring .....	1	45	16706	Screw .....	2
13	16706	Screw .....	2	46	205120	Poppet .....	1
14	205120	Poppet .....	1	47	205121	Seal Plate .....	2
15	205121	Seal Plate .....	2	48	188516	Spring Seat .....	2
16	188516	Spring Seat .....	2	49	385855	Spring .....	1
17	385855	Spring .....	1	50	188519	Cap .....	1
18	188518	Spool End .....	1	51	205122	Wiper .....	2
19	188519	Cap .....	1	52	12949	Capscrew .....	2
20	205122	Wiper .....	2	53	.....	Spool .....	1
21	.....	Spool .....	1	54	188518	Spool End .....	1
22	12949	Capscrew .....	2	55	205123	Spring .....	1
23	205123	Spring .....	1	56	57664	O-Ring .....	1
24	57664	O-Ring .....	1	57	1357361	O-Ring .....	2
25	1357361	O-Ring .....	2				
26	1357355	Spool Section .....	1				
27	16706	Screw .....	2	a	Last Used On S/N D177B-35722		
28	16480	O-Ring .....	1	b	First Used On S/N D177B-35723		



## VALVE (Figure 188) FOUR FUNCTION



**VALVE**  
**FOUR FUNCTION**

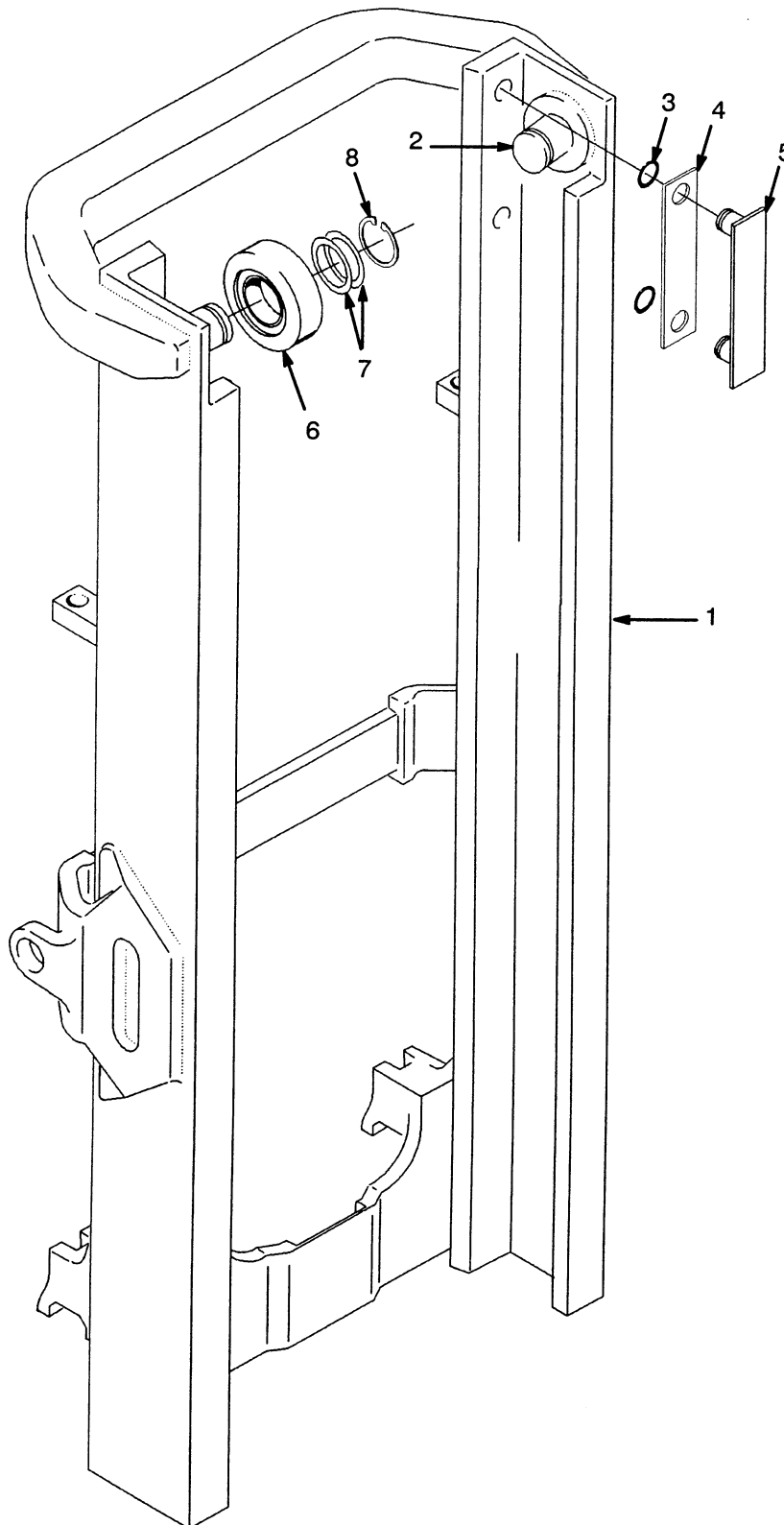
REF	PART NO.	NAME OF PART	QTY	REF	PART NO.	NAME OF PART	QTY
a	1338333	Control Valve .....	1	28	16480	O-Ring .....	1
b	2033503	Control Valve .....	1	29	205120	Poppet .....	1
1	1327415	Rod .....	1	30	205121	Seal Plate .....	2
2	188534	Nut .....	2	31	188516	Spring Seat .....	1
3	15055	Nut .....	4	32	385855	Spring .....	1
4	1327414	Rod .....	2	33	188518	Spool End .....	1
5 a	1357356	Outlet Section .....	1	34	188519	Cap .....	1
5 b	1451092	Outlet Section .....	1	35	205122	Wiper .....	2
6	378424	Relief Valve .....	1	36	12949	Capscrew .....	2
6	1309419	Kit-Seal .....	1	37	205123	Spring .....	1
7	350485	Relief Valve .....	1	38	.....	Piston .....	1
7	1357369	Kit-Seal .....	1	39	1357364	Piston End .....	1
8	1357352	Inlet Section .....	1	40	341462	Spring .....	1
9	57664	O-Ring .....	1	41	.....	Spool .....	1
10	1357354	Spool Section .....	1	42	57664	O-Ring .....	1
11	199524	Plug .....	1	43	1357361	O-Ring .....	2
12	16484	O-Ring .....	1	44	1357353	Spool Section .....	2
13	16706	Screw .....	2	45	16706	Screw .....	2
14	205120	Poppet .....	1	46	205120	Poppet .....	1
15	205121	Seal Plate .....	2	47	205121	Seal Plate .....	2
16	188516	Spring Seat .....	2	48	188516	Spring Seat .....	2
17	385855	Spring .....	1	49	385855	Spring .....	1
18	188518	Spool End .....	1	50	188519	Cap .....	1
19	188519	Cap .....	1	51	205122	Wiper .....	2
20	205122	Wiper .....	2	52	12949	Capscrew .....	2
21	.....	Spool .....	1	53	.....	Spool .....	1
22	12949	Capscrew .....	2	54	188518	Spool End .....	1
23	205123	Spring .....	1	55	205123	Spring .....	1
24	57664	O-Ring .....	1	56	57664	O-Ring .....	1
25	1357361	O-Ring .....	2	57	1357361	O-Ring .....	2
26	1357355	Spool Section .....	1	a	Last Used On S/N D177B-35560		
27	16706	Screw .....	2	b	First Used On S/N D177B-35561		

## This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

---

**TWO STAGE LIMITED FREE-LIFT**

CARRIAGE (Figure 194) TWO STAGE LIMITED FREE-LIFT FOUR ROLLER .....	Page 358
CARRIAGE (Figure 195) TWO STAGE LIMITED FREE-LIFT SIX ROLLER .....	Page 359
CYLINDER (Figure 192) TWO STAGE LIMITED FREE-LIFT H45-55XM .....	Page 354
CYLINDER (Figure 193) TWO STAGE LIMITED FREE-LIFT H60-65XM .....	Page 356
FORKS (Figure 200) TWO STAGE LIMITED FREE-LIFT .....	Page 366
HEADER HOSE (Figure 199) TWO STAGE LIMITED FREE-LIFT .....	Page 364
INNER MAST (Figure 190) TWO STAGE LIMITED FREE-LIFT .....	Page 350
LIFT (Figure 191) TWO STAGE LIMITED FREE-LIFT .....	Page 352
LOAD BACKREST EXTENSION (Figure 196) TWO STAGE LIMITED FREE-LIFT .....	Page 360
MAST INSTALLATION (Figure 197) TWO STAGE LIMITED FREE-LIFT .....	Page 361
MAST INSTALLATION (Figure 198) TWO STAGE LIMITED FREE-LIFT .....	Page 362
OUTER MAST (Figure 189) TWO STAGE LIMITED FREE-LIFT .....	Page 348

**OUTER MAST (Figure 189)**  
**TWO STAGE LIMITED FREE-LIFT**

**OUTER MAST  
TWO STAGE LFL**

**H45-55XM**

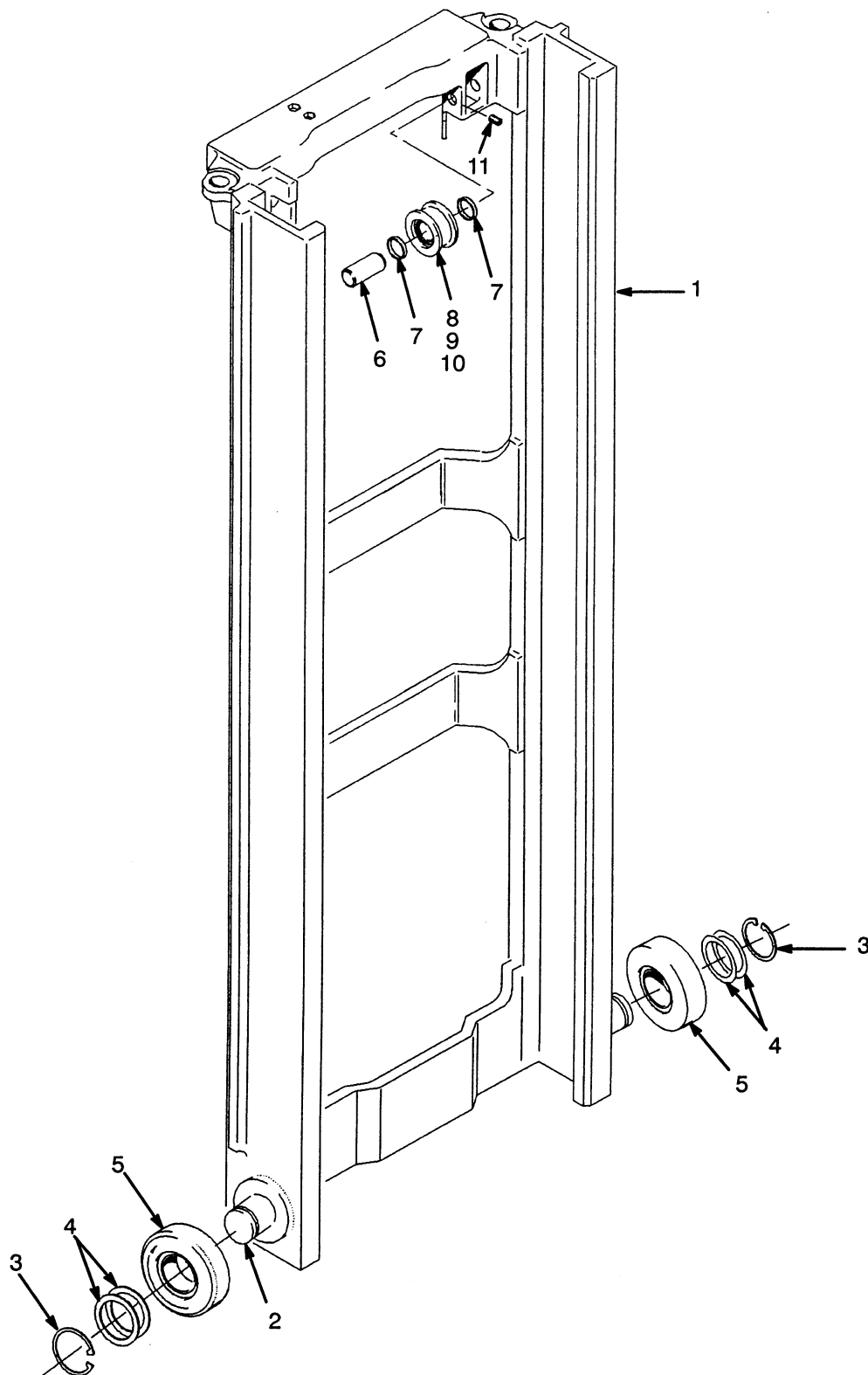
Ref No	Name Of Part 1 2 3 4	Lift Height To Bottom Of Forks				
		117.8 in	129.6 in	149.3 in	169.0 in	188.7 in
	<b>Mast Group No.</b>	<b>B507 2992</b>	<b>B507 3292</b>	<b>B507 3792</b>	<b>B507 4292</b>	<b>B507 4792</b>
1	Outer Mast	1341005	1341008	1341013	1341019	1341024

**H60-65XM**

Ref No	Name Of Part 1 2 3 4	Lift Height To Bottom Of Forks				
		112.6 in	124.4 in	144.1 in	163.7 in	183.4 in
	<b>Mast Group No.</b>	<b>B562 2859</b>	<b>B562 3159</b>	<b>B562 3659</b>	<b>B562 4159</b>	<b>B562 4659</b>
1	Outer Mast	1341005	1341008	1341013	1341019	1341024

REF	PART NO.	NAME OF PART	QTY	REF	PART NO.	NAME OF PART	QTY
a	.....	Mast .....	1	6	1333396	Load Roller ("B" 0.76 mm) .....	2
1 a	.....	Outer Mast .....	1	6	1333397	Load Roller ("C" 1.52 mm) .....	2
2	1345216	Stub Shaft .....	2	7	129387	Shim (0.020 in) .....	AR
3	104506	O-Ring .....	4	8	58901	Snap Ring .....	2
4	131716	Shim (0.020 in) .....	4	a	☞ Table Above		
5	215211	Bearing Strip .....	2				
6	1395168	Load Roller ("A" Standard) .....	2				

## INNER MAST (Figure 190) TWO STAGE LIMITED FREE-LIFT



**INNER MAST  
TWO STAGE LIMITED FREE-LIFT**

**H45-55XM**

Ref No	Name Of Part 1 2 3 4	Lift Height To Bottom Of Forks				
		117.8 in	129.6 in	149.3 in	169.0 in	188.7 in
	<b>Mast Group No.</b>	<b>B507 2992</b>	<b>B507 3292</b>	<b>B507 3792</b>	<b>B507 4292</b>	<b>B507 4792</b>
1	Inner Mast	1341210	1341213	1341218	1341223	1341228

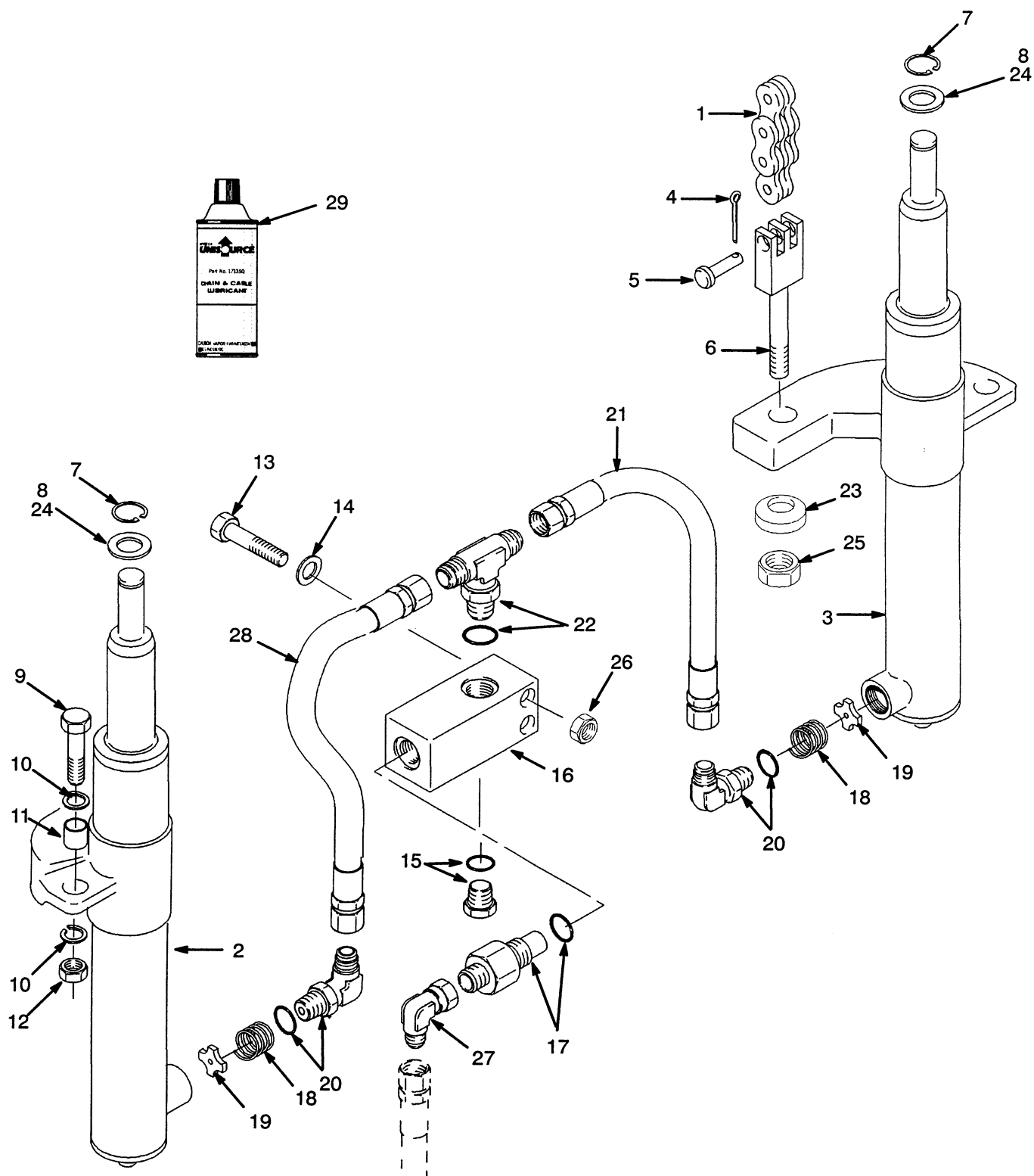
**H60-65XM**

Ref No	Name Of Part 1 2 3 4	Lift Height To Bottom Of Forks				
		112.6 in	124.4 in	144.1 in	163.7 in	183.4 in
	<b>Mast Group No.</b>	<b>B562 2859</b>	<b>B562 3159</b>	<b>B562 3659</b>	<b>B562 4159</b>	<b>B562 4659</b>
1	Inner Mast	1341210	1341213	1341218	1341223	1341228

REF	PART NO.	NAME OF PART	QTY	REF	PART NO.	NAME OF PART	QTY
a	.....	Mast .....	1	9	37752	Snap Ring .....	1
1 a	.....	Inner Mast .....	1	9	1378699	Bearing .....	1
2	1345216	Stub Shaft .....	2	10 e	1379684	Chain Sheave (H60-65XM) ....	2
3	58901	Snap Ring .....	2	10	1378694	Sheave .....	1
4	129387	Shim (0.020 In) .....	AR	10	37752	Snap Ring .....	1
5	1395168	Load Roller ("A" Standard) ....	2	10	1378699	Bearing .....	1
5	1333396	Load Roller ("B" 0.76 mm) ....	2	11 b	302144	Setscrew .....	4
5	1333397	Load Roller ("C" 1.52 mm) ....	2	11 c	302462	Pin .....	2
6 b	1333389	Pin .....	2	a	☞ Tables Above		
6 c	1368656	Pin .....	2	b	Last Used On Mast S/N B507B-5469 & B562B-5469		
7 d	1333644	Spacer .....	4	c	First Used On Mast S/N B507B-5470, B507V-1501, B562B-5470 & B562V-1511		
7 e	1378691	Spacer .....	4	d	Last Used On S/N B507A-1920, B507B-7408 & B562V-1565, B562B-5197		
8 d	1345183	Chain Sheave .....	2	e	First Used On S/N B507A-1921, B507B-7409 & B562V-1566, B562B-5198		
8	1345181	Sheave .....	1				
8	37752	Snap Ring .....	2				
8	231020	Bearing .....	1				
9 e	1379685	Chain Sheave (H45-55XM) ....	2				
9	1378698	Sheave .....	1				



## LIFT (Figure 191) TWO STAGE LIMITED FREE-LIFT



**LIFT  
TWO STAGE LFL**

**H45-55XM**

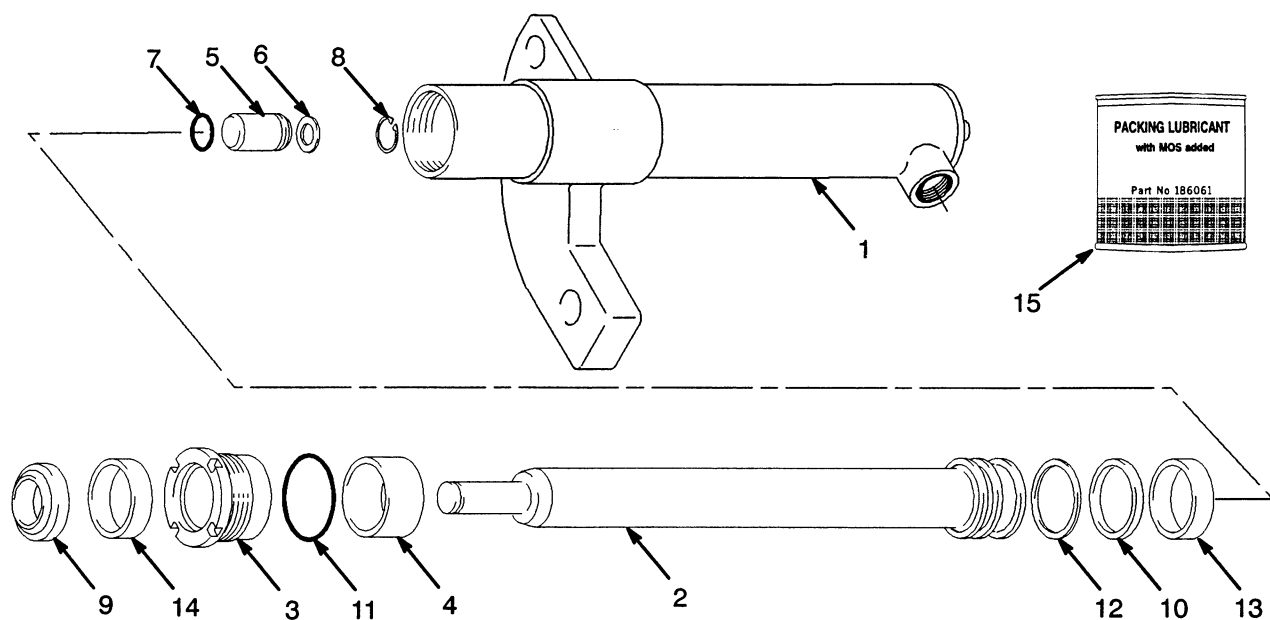
Ref No	Name Of Part 1 2 3 4	Lift Height To Bottom Of Forks				
		117.8 in	129.6 in	149.3 in	169.0 in	188.7 in
	<b>Mast Group No.</b>	<b>B507 2992</b>	<b>B507 3292</b>	<b>B507 3792</b>	<b>B507 4292</b>	<b>B507 4792</b>
1	Lift Chain	180057	337174 <sup>c</sup> 223389 <sup>d</sup>	135588 <sup>c</sup> 1301870 <sup>d</sup>	214444 <sup>c</sup> 246994 <sup>d</sup>	129358 <sup>c</sup> 336393 <sup>d</sup>

**H60-65XM**

Ref No	Name Of Part 1 2 3 4	Lift Height To Bottom Of Forks				
		112.6 in	124.4 in	144.1 in	163.7 in	183.4 in
	<b>Mast Group No.</b>	<b>B562 2859</b>	<b>B562 3159</b>	<b>B562 3659</b>	<b>B562 4159</b>	<b>B562 4659</b>
1	Lift Chain	1342121	1342124 <sup>c</sup> 1342383 <sup>d</sup>	1342129 <sup>c</sup> 1342393 <sup>d</sup>	1342134 <sup>c</sup> 1359234 <sup>d</sup>	1342139 <sup>c</sup> 1342392 <sup>d</sup>

REF	PART NO.	NAME OF PART	QTY	REF	PART NO.	NAME OF PART	QTY
a	.....	Mast .....	1	19	357749	Special Washer .....	2
1 a	.....	Lift Chain .....	2	20	189595	Fitting .....	2
2	.....	Cylinder, RH .....	1	20	16485	O-Ring .....	1
		☞ Figure 192, Figure 193		21	1345403	Hose .....	1
3	.....	Cylinder, LH .....	1	22	16578	Fitting .....	1
		☞ Figure 192, Figure 193		22	16485	O-Ring .....	1
4	15200	Cotter Pin .....	2	23	297649	Base Ring .....	2
5	323161	Pin .....	2	24 f	1354915	Washer (0.25 mm) .....	AR
6 bc	320313	Chain Anchor .....	2	24 f	1354916	Washer (0.75 mm) .....	AR
6 bd	1369357	Chain Anchor .....	2	24 f	1354917	Washer (1.50 mm) .....	AR
6 ec	1333328	Chain Anchor .....	2	25	161003	Nut .....	2
6 ed	1369356	Chain Anchor .....	2	26	313828	Nut .....	2
7	131358	Snap Ring .....	2	27	16882	Fitting .....	1
8	1333382	Washer .....	AR	28	1462551	Hose .....	1
9	292532	Capscrew .....	2	29	171350	Chain Lubricant .....	AR
10	296422	Lockwasher .....	4				
11	323090	Spacer .....	2	a	☞ Table Above		
12	300937	Nut .....	2	b	For Mast S/N B507		
13	136704	Capscrew .....	2	c	Last Used On Mast S/N B507B-5469 & B562B-5469		
14	320157	Washer .....	2	d	First Used On Mast S/N B507B-5470, B507V-1501, B562B-5470 & B562V-1511		
15 g	14603	Fitting .....	1	e	For Mast S/N B562		
15	16486	O-Ring .....	1	f	Used With Item 8 Between Cylinder Rod And Inner Mast As Required		
16	1379687	Valve Housing .....	1	g	Optional		
16 g	1333392	Valve Housing .....	1	h	H45-55 XM		
17 h	2309766	Lowering Control Valve .....	1	k	H60-65 XM		
17 k	316306	Lowering Control Valve .....	1				
17	16982	O-Ring .....	1				
18	337179	Spring .....	2				

## CYLINDER (Figure 192) TWO STAGE LIMITED FREE-LIFT H45-55XM

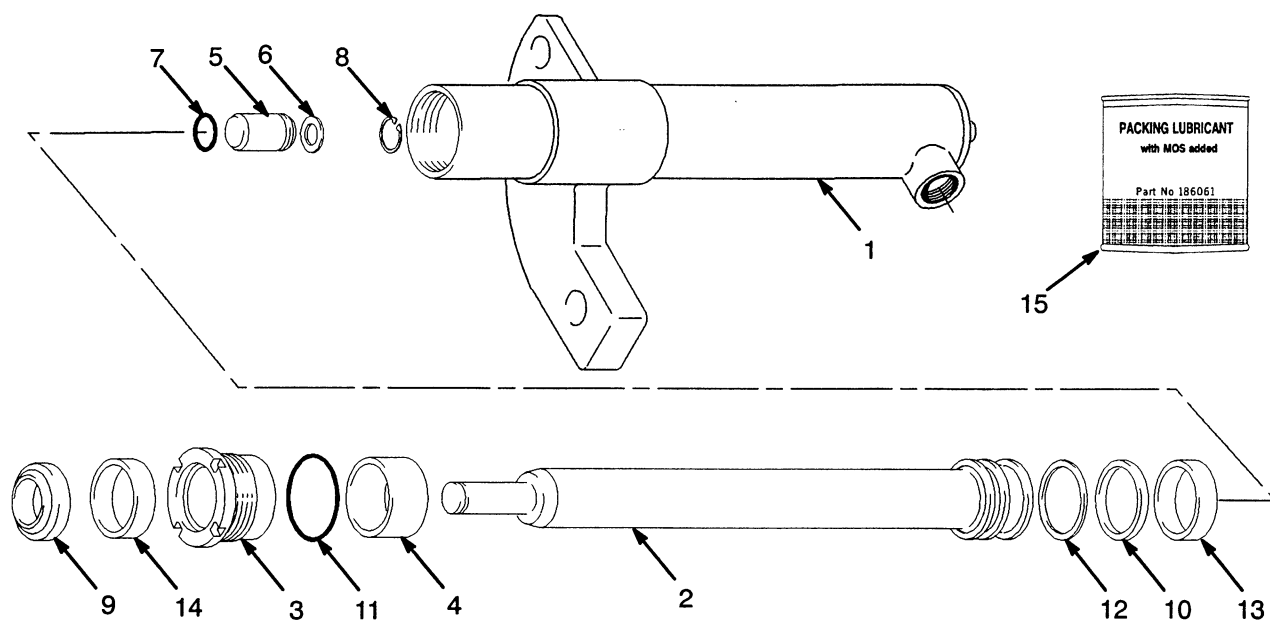


**CYLINDER**  
**TWO STAGE LIMITED FREE-LIFT**  
**H45-55XM**

Ref No	Name Of Part 1 2 3 4	Lift Height To Bottom Of Forks				
		117.8 in	129.6 in	149.3 in	169.0 in	188.7 in
	<b>Mast Group No.</b>	<b>B507 2992</b>	<b>B507 3292</b>	<b>B507 3792</b>	<b>B507 4292</b>	<b>B507 4792</b>
	Group # Cylinder RH	8600056 1341395	8600059 1341398	8600064 1341403	8600070 1341408	8600151 1341413
1	Shell	1355148	1355160	1355180	1355200	1355222
2	Rod	1355146	1355158	1355178	1355199	1355217
	Group # Cylinder LH	8600006 1341432	8600009 1341435	8600014 1341440	8600020 1341445	8600101 1341450
1	Shell	1355145	1355157	1355177	1355198	1355219
2	Rod	1355146	1355158	1355178	1355199	1355217

REF	PART NO.	NAME OF PART	QTY	REF	PART NO.	NAME OF PART	QTY
a	.....	Cylinder .....	1	11 ef	92861	O-Ring .....	1
1 a	.....	Shell .....	1	12 ef	638246	Back-Up Ring .....	1
2 a	.....	Rod .....	1	13 ef	1356750	Wear Ring .....	1
3 b	1355127	Retainer .....	1	14 be	1356749	Rod Seal .....	1
3 c	1355220	Retainer .....	1	14 cf	1356752	Rod Seal .....	1
4 d	1355189	Spacer .....	1	15	186061	Packing Lubricant .....	AR
4 c	1355221	Spacer .....	1				
5	257913	Check Valve .....	1	a	☞ Table Above		
6	297531	Washer .....	1	b	For Lift Heights Below 188.7 in		
7 ef	39348	O-Ring .....	1	c	For 188.7 in Lift Height		
8	187388	Snap Ring .....	1	d	For 169.0 Lift Height		
9 be	1319668	Wiper .....	1	e	Included In Seal Kit 1355276		
9 cf	1310370	Wiper .....	1	f	Included In Seal Kit 1355277		
10 ef	2013075	Seal .....	1				

## CYLINDER (Figure 193) TWO STAGE LIMITED FREE-LIFT H60-65XM

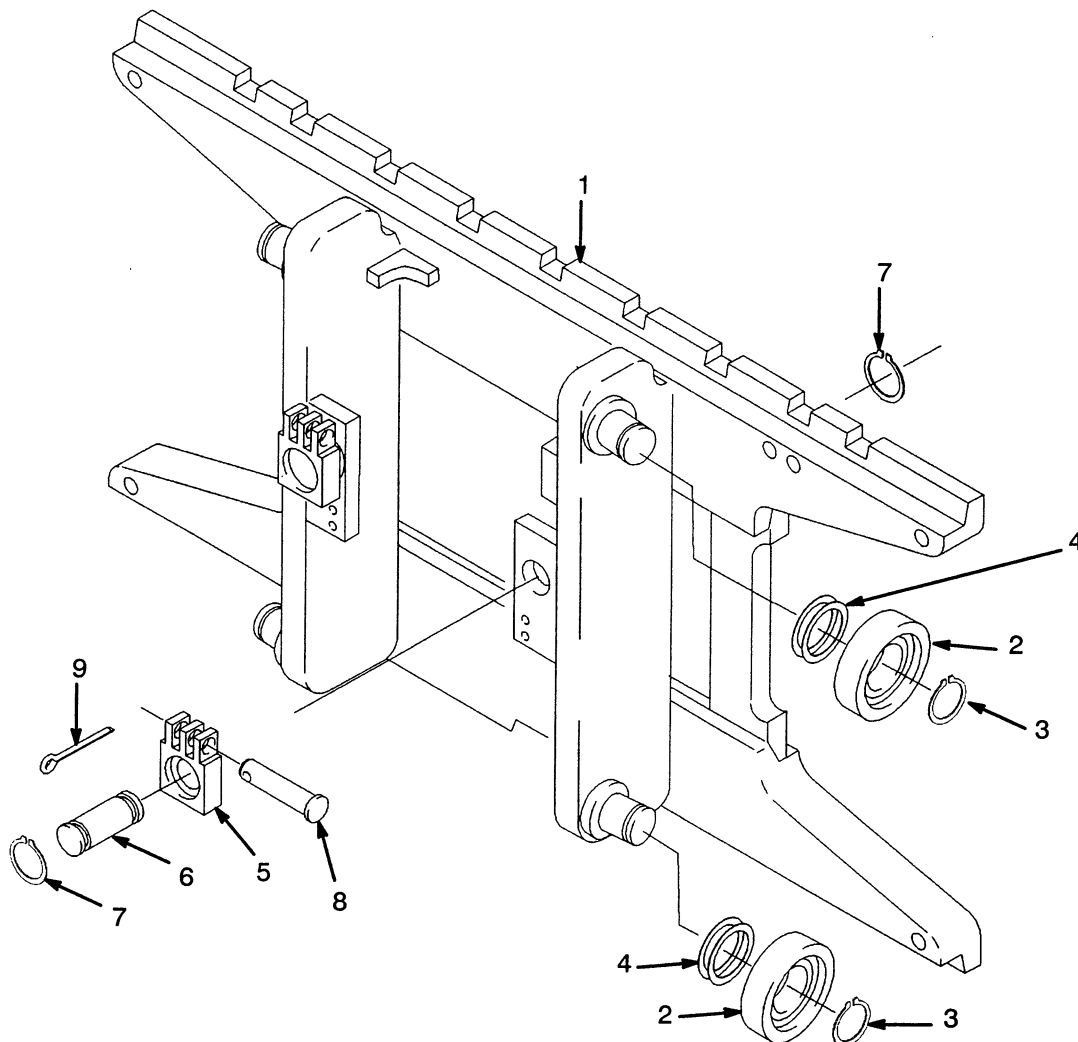


**CYLINDER**  
**TWO STAGE LFL**  
**H60-65XM**

Ref No	Name Of Part 1 2 3 4	Lift Height To Bottom Of Forks				
		112.6 in	124.4 in	144.1 in	163.7 in	183.4 in
	<b>Mast Group No.</b>	<b>B562 2859</b>	<b>B562 3159</b>	<b>B562 3659</b>	<b>B562 4159</b>	<b>B562 4659</b>
	Group # Cylinder RH	8600256 1341469	8600259 1341472	8600264 1341477	8600352 1341482	8600357 1341487
1	Shell	1355357	1355369	1355393	1355416	1355436
2	Rod	1355355	1355367	1355391	1355414	1355434
	Group # Cylinder LH	8600206 1341506	8600209 1341509	8600214 1341514	8600302 1341519	8600307 1341524
1	Shell	1355354	1355366	1355390	1355413	1355433
2	Rod	1355355	1355367	1355391	1355414	1355434

REF	PART NO.	NAME OF PART	QTY	REF	PART NO.	NAME OF PART	QTY
a		Cylinder	1	10 de	334156	Seal	1
1 a		Shell	1	11 de	59229	O-Ring	1
2 a		Rod	1	12 de	335012	Back-Up Ring	1
3 b	1355284	Retainer	1	13 de	1356751	Wear Ring	1
3 c	1355409	Retainer	1	14 bd	1356749	Rod Seal	1
4 b	1355285	Spacer	1	14 ce	1356752	Rod Seal	1
4 c	1355410	Spacer	1	15	186061	Packing Lubricant	AR
5	257913	Check Valve	1	a		Table Above	
6	297531	Washer	1	b		For Lift Heights To 144.1 in	
7 de	39348	O-Ring	1	c		For Lift Heights 163.7 in. And 183.4 In.	
8	187388	Snap Ring	1	d		Included In Seal Kit 1355286	
9 bd	1319668	Wiper	1	e		Included In Seal Kit 1355411	
9 ce	1310370	Wiper	1				

## CARRIAGE (Figure 194) TWO STAGE LIMITED FREE-LIFT FOUR ROLLER



	H45-55XM	H60-65XM
Group No.	8500007	8500008
Carriage	1343838	1343841

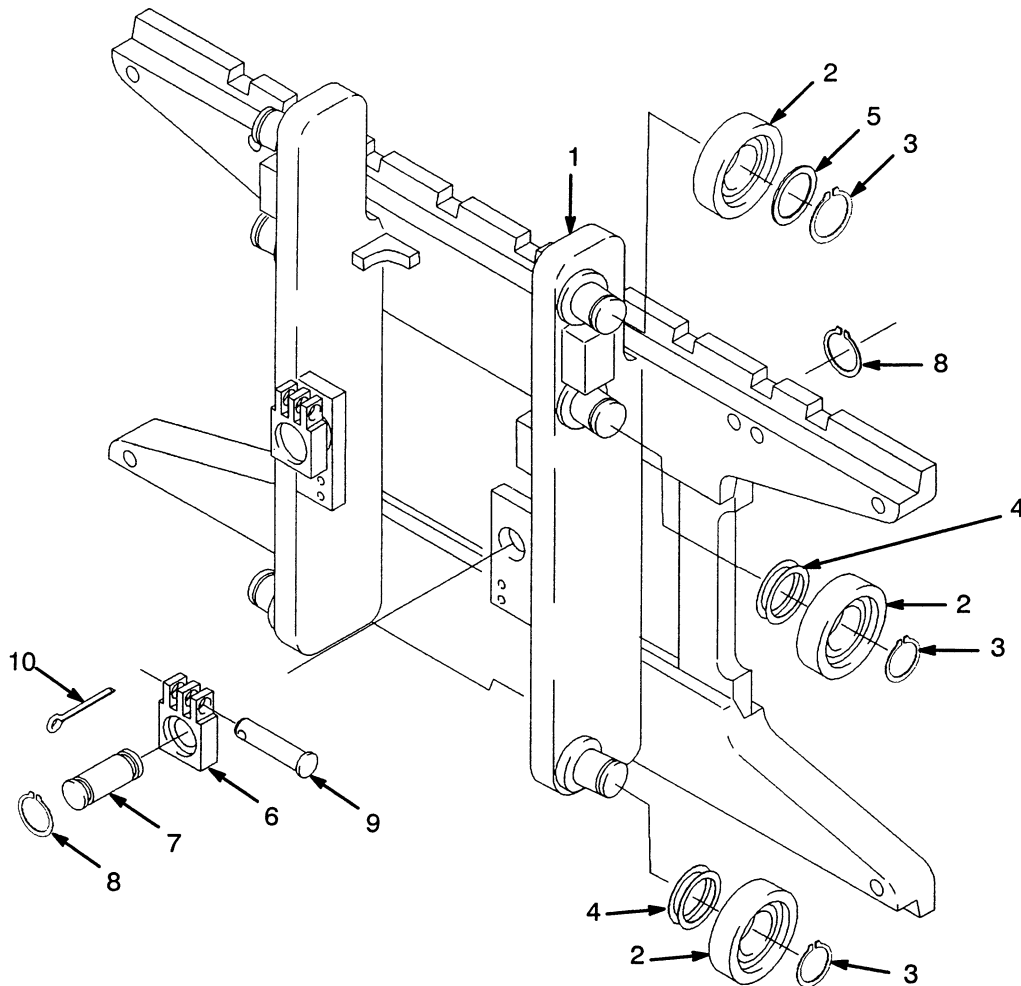
### KEY:

A: H45-55XM

B: H60-65XM

REF	PART NO.	NAME OF PART	QTY		REF	PART NO.	NAME OF PART	QTY	
			A	B				A	B
a		Carriage Assy	1	..	4	1345263	Shim	AR	AR
a		Carriage Assy	..	1	5	1369345	Chain Anchor	2	..
1	1337940	Carriage	1	..	5	1369344	Chain Anchor	..	2
1	1337943	Carriage	..	1	6	1345352	Pin	2	2
1	1345264	Stubshaft	4	4	7	131358	Snap Ring	4	4
2	b 1345218	Load Roller	6	6	8	323161	Pin	2	2
2	1345219	Load Roller ("B" 0.76 mm)	..	4	9	15200	Cotter Pin	2	2
2	1345220	Load Roller ("C" 1.52 mm)	..	4	a	Table Above			
3	12891	Snap Ring	4	4					

**CARRIAGE (Figure 195)**  
**TWO STAGE LIMITED FREE-LIFT**  
**SIX ROLLER**



	H45-55XM	H60-65XM
<b>Group No.</b>	8500013	8500014
Carriage	1343846	1343847

**KEY:**

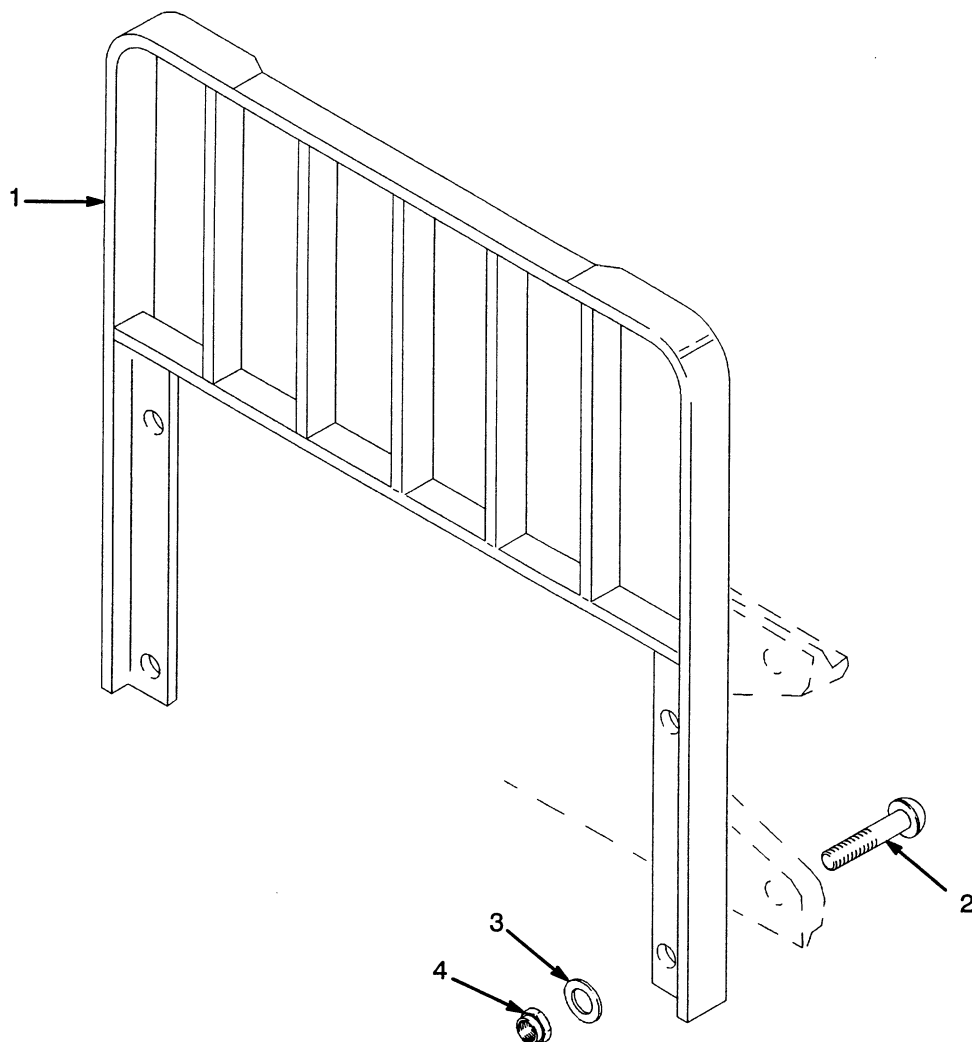
**A:** H45-55XM

**B:** H60-65XM

REF	PART NO.	NAME OF PART	QTY		REF	PART NO.	NAME OF PART	QTY	
			A	B				A	B
a	.....	Carriage Assy .....	1	..	5	366116	Spacer .....	2	2
a	....	Carriage Assy .....	..	1	6	1369345	Chain Anchor .....	2	..
1	1338616	Carriage .....	1	..	6	1369344	Chain Anchor .....	..	2
1	1338618	Carriage .....	..	1	7	1345352	Pin .....	2	2
1	1345264	Stubshaft .....	6	6	8	131358	Snap Ring .....	4	4
2	b 1345218	Load Roller .....	6	6	9	323161	Pin .....	2	2
2	c 1395172	Load Roller ("A" Standard) ..	6	6	10	15200	Cotter Pin .....	2	2
2	1345219	Load Roller ("B" 0.76 mm) ..	6	6					
2	1345220	Load Roller ("C" 1.52 mm) ..	6	6					
3	12891	Snap Ring .....	6	6	a		Table Above		
4	1345263	Shim .....	ARAR		b		Last Used On S/N Pending ECN 72449		
					c		First Used On S/N Pending ECN 72449 Above		



## LOAD BACKREST EXTENSION (Figure 196) TWO STAGE LIMITED FREE-LIFT



**KEY:**

A: H45-55XM

B: H60-65XM

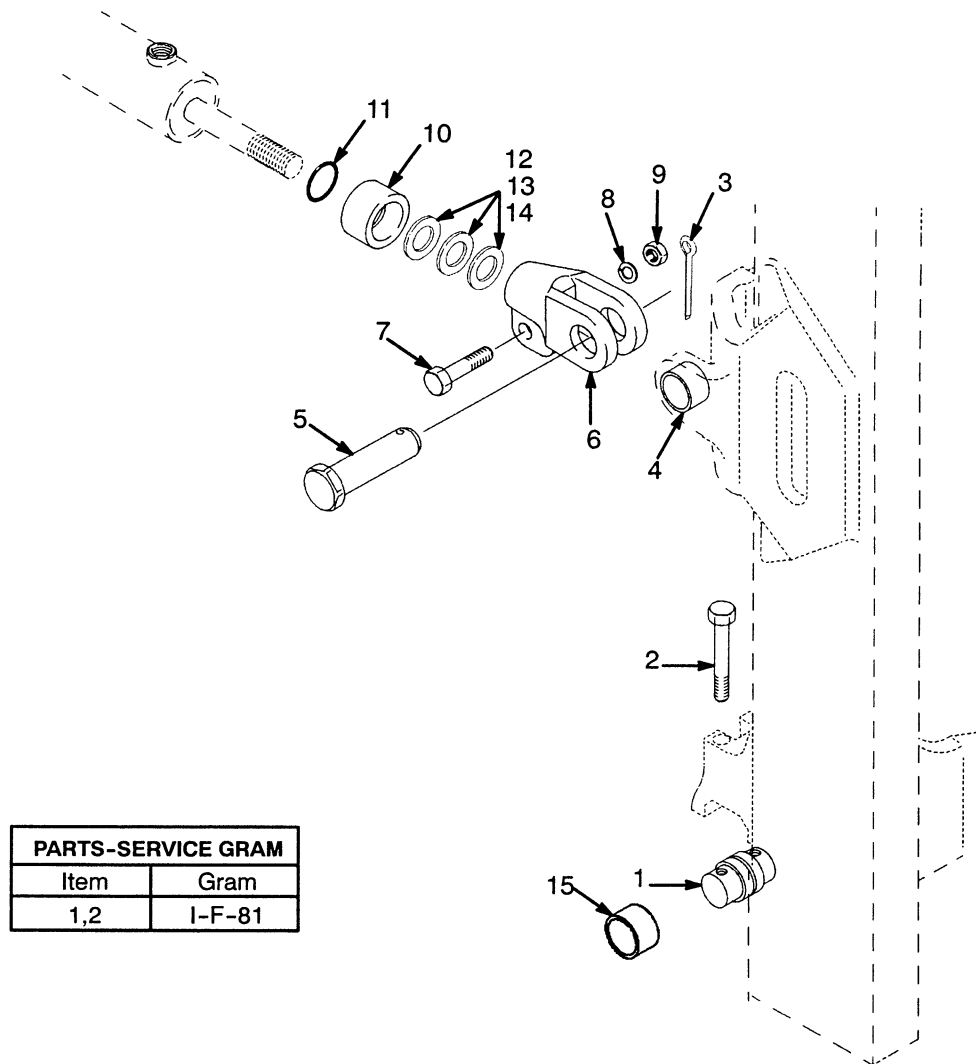
REF	PART NO.	NAME OF PART	QTY	
			A	B
1	1338642	Load Backrest Extension	1	..
1	1338645	Load Backrest Extension	..	1
1 <sup>a</sup>	1345267	Load Backrest Extension	..	1
2	1343990	Capscrew	4	..
2	1354923	Capscrew	..	4
3	221771	Washer	4	4

REF	PART NO.	NAME OF PART	QTY	
			A	B
3 <sup>b</sup>	296423	Washer	4	4
4	300937	Nut	4	4

<sup>a</sup> For Polished Forks With Full Bottom Taper

<sup>b</sup> Optional

# **MAST INSTALLATION (Figure 197)** **TWO STAGE LIMITED FREE-LIFT**



PARTS-SERVICE GRAM	
Item	Gram
1,2	I-F-81

**KEY:**

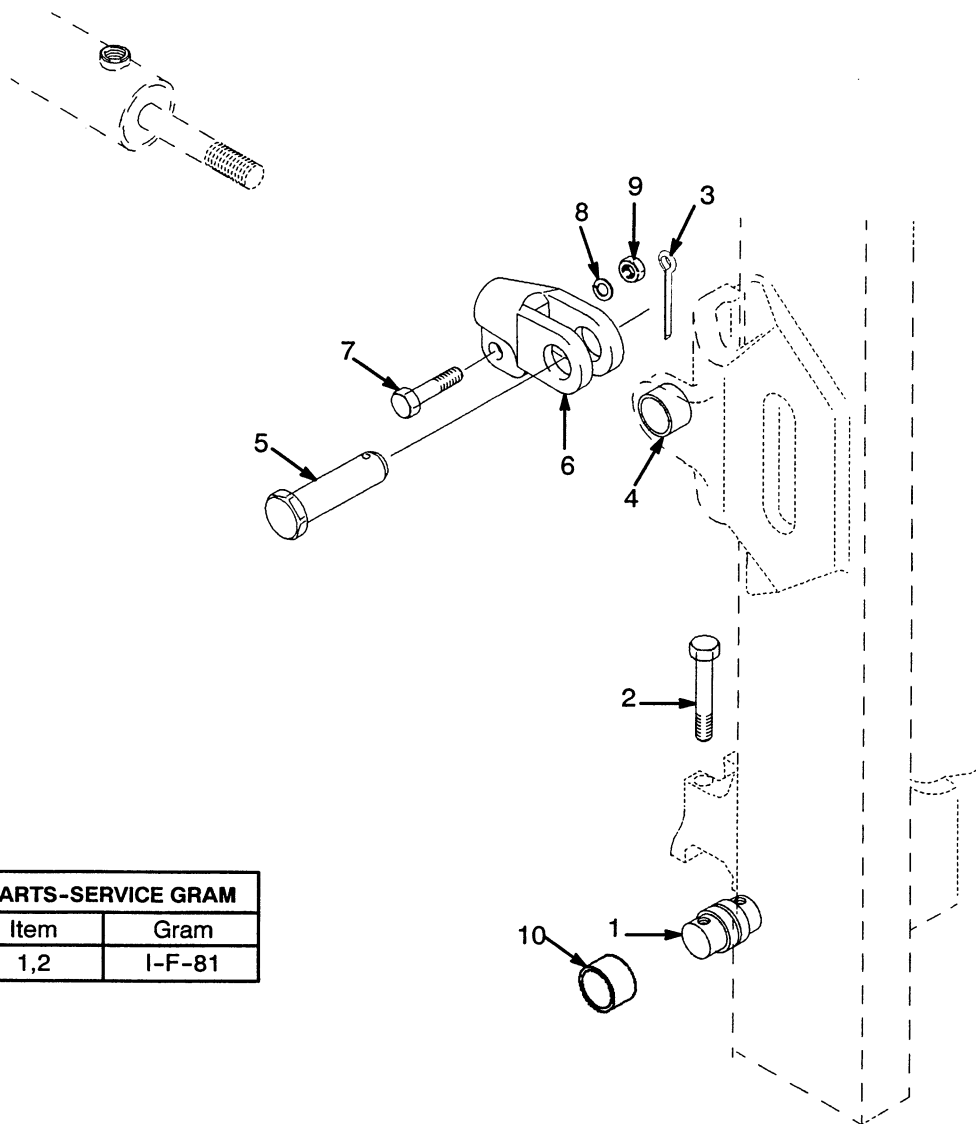
**A:** 6° Forward Tilt/10° Back Tilt

**B:** 6° Forward Tilt/6° Back Tilt

**C:** 6° Forward Tilt/5° Back Tilt

REF	PART NO.	NAME OF PART	QTY			REF	PART NO.	NAME OF PART	QTY		
			A	B	C				A	B	C
1	<b>a</b> 1333386	Pin .....	2	2	2	10	1451788	Spacer .....	2	..	
1	<b>b</b> 1376424	Pin .....	2	2	2	10	384101	Spacer .....	..	2	
2	<b>a</b> 293659	Capscrew .....	4	4	4	11	55434	O-Ring .....	2	..	
2	<b>b</b> 1376423	Capscrew .....	4	4	4	12	134675	Shim .....	AR	AR	AR
3	15236	Cotter Pin .....	2	2	2	13	1325119	Shim .....	AR	AR	AR
4	300982	Bushing .....	2	2	2	14	1361948	Shim .....	..	AR	
5	1345354	Pin .....	2	2	2	15	1333385	Bushing .....	2	2	2
6	1307641	Rod End .....	2	2	2	15	1380115	Bushing (Optional) .....	2	2	2
7	293650	Capscrew .....	2	2	2						
8	292683	Lockwasher .....	2	2	2	<b>a</b>	First Used On S/N D177B-19806				
9	216877	Nut .....	2	2	2	<b>b</b>	Last Used On S/N D177B-19807				

## MAST INSTALLATION (Figure 198) TWO STAGE LIMITED FREE-LIFT



PARTS-SERVICE GRAM	
Item	Gram
1,2	I-F-81

### KEY:

10° Forward Tilt/6° Back Tilt

REF	PART NO.	NAME OF PART	QTY
1 <sup>a</sup>	1333386	Pin	2
1 <sup>b</sup>	1376424	Pin	2
2 <sup>a</sup>	293659	Capscrew	4
2 <sup>b</sup>	1376423	Capscrew	4
3	15236	Cotter Pin	2
4	300982	Bushing	2
5	1345354	Pin	2
6	1356318	Rod End	2

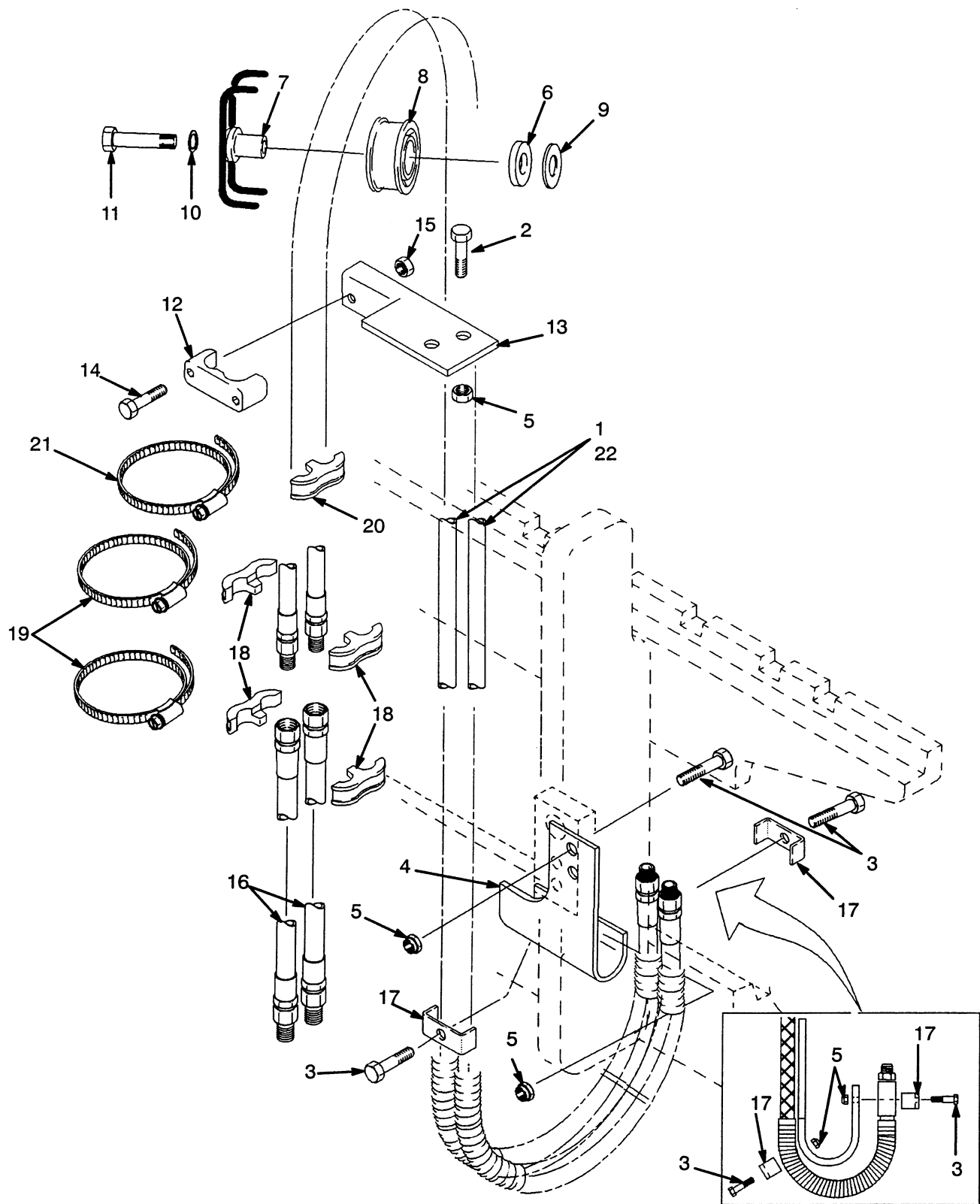
REF	PART NO.	NAME OF PART	QTY
7	293650	Capscrew	2
8	292683	Lockwasher	2
9	216877	Nut	2
10	1333385	Bushing	2
10	1380115	Bushing (Optional)	2

<sup>a</sup> First Used On S/N D177B-19806

<sup>b</sup> Last Used On S/N D177B-19807

## This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

## HEADER HOSE (Figure 199) TWO STAGE LIMITED FREE-LIFT



## HEADER HOSE

### TWO STAGE LIMITED FREE-LIFT

#### H45-55XM

Ref No	Name Of Part 1 2 3 4	Lift Height To Bottom Of Forks				
		117.8 in	129.6 in	149.3 in)	169.0 in	188.7 in
	<b>Mast Group No.</b>	<b>B507 2992</b>	<b>B507 3292</b>	<b>B507 3792</b>	<b>B507 4292</b>	<b>B507 4792</b>
1	Hose	<sup>a</sup> 1345496 <sup>b</sup> 1368313	<sup>a</sup> 1345499 <sup>b</sup> 1369606	<sup>a</sup> 1369604 <sup>b</sup> 1369611	<sup>a</sup> 1369609 <sup>b</sup> 1345516	<sup>a</sup> 1369613 <sup>b</sup> 1369617
20	Clamp	----	----	1353530	1353530	1353530
21	Clamp	----	----	1360507	1360507	1360507

- <sup>a</sup> Last Used On S/N B507V-3171  
<sup>b</sup> First Used On S/N B507V-3172

#### H60-65XM

Ref No	Name Of Part 1 2 3 4	Lift Height To Bottom Of Forks				
		112.6 in	124.4 in	144.1 in	163.7 in	183.4 in
	<b>Mast Group No.</b>	<b>B562 2859</b>	<b>B562 3159</b>	<b>B562 3659</b>	<b>B562 4159</b>	<b>B562 4659</b>
1	Hose	<sup>a</sup> 1345496 <sup>b</sup> 1368313	<sup>a</sup> 1345499 <sup>b</sup> 1369606	<sup>a</sup> 1369604 <sup>b</sup> 1369611	<sup>a</sup> 1369609 <sup>b</sup> 1345516	<sup>a</sup> 1369613 <sup>b</sup> 1369617
20	Clamp	----	----	1353530	1353530	1353530
21	Clamp	----	----	1360507	1360507	1360507
22	Hose	<sup>b</sup> 1398493	1368314	1398512	1398645	1398541

- <sup>a</sup> Last Used On S/N B562V-2417  
<sup>b</sup> First Used On S/N B562V-2418

**KEY:**

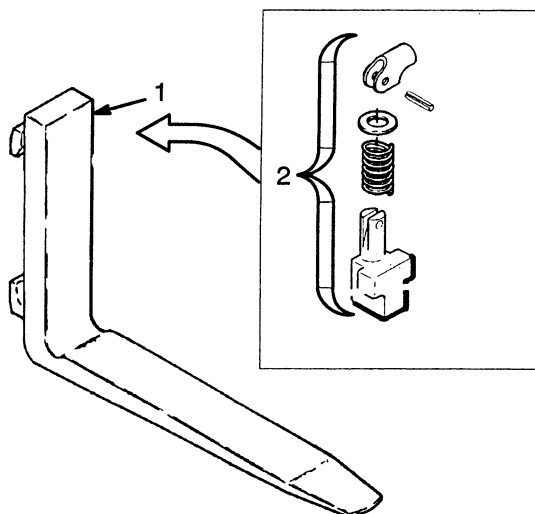
- A: Three Function**  
**B: Four Function**

				QTY								QTY			
REF	PART NO.	NAME OF PART		A	B	REF	PART NO.	NAME OF PART		A	B	A	B		
1	<sup>a</sup>	..... Hose .....		2	2	13	1354921	Bracket, LH .....		..	1				
2	136704	Capscrew .....		2	4	14	292502	Capscrew .....		2	4				
3	292508	Capscrew .....		4	8	15	313805	Nut .....		2	4				
4	1345412	Bracket, RH .....		1	1	16	1354922	Hose, RH .....		2	2				
4	1345413	Bracket, LH .....		..	1	16	1354904	Hose, LH .....		..	2				
5	313828	Nut .....		6	12	17	1345348	Clamp .....		2	4				
6	1360549	Spacer .....		1	2	18	1353530	Clamp .....		4	8				
7	1360548	Stubshaft .....		1	2	19	1360507	Clamp .....		2	4				
8	1381595	Sheave .....		1	2	20	<sup>a</sup>	..... Clamp .....		1	2				
9	1345190	Special Washer .....		1	2	21	<sup>a</sup>	..... Clamp .....		1	2				
10	292683	Washer .....		1	2	22	<sup>a</sup>	..... Hose .....		..	2				
11	292533	Capscrew .....		1	2										
12	1360386	Clamp .....		1	2										
13	1354919	Bracket, RH .....		1	1										

<sup>a</sup> ☞ Table Above

## FORKS (Figure 200)

### TWO STAGE LIMITED FREE-LIFT



### H45-55XM

Ref No	Name Of Part 1 2 3 4	Standard Taper		Full Bottom Taper	Qty
1	Fork	125 mm x 40 mm	100 mm x 40 mm	125 mm x 40 mm	
	762 mm (30 in)	1326660	384210		2
	914 mm (36 in)	1326661	384211	1338087	2
	1067 mm (42 in)	1326663	384213	1338088	2
	1219 mm (48 in)	1326664	384214	1338089	2
	1372 mm (54 in)	1326665	384215		2
	1524 mm (60 in)	1326666	384216		2
2	Latch	369795	369795	369795	1

**NOTE: OTHER FORK DIMENSIONS AVAILABLE ON REQUEST, CONTACT YOUR HYSTER DEALER.**

**FORKS**  
**TWO STAGE LIMITED FREE-LIFT**  
**(Figure 200 Continued)**

**H60-65XM**

Ref No	Name Of Part 1 2 3 4	Standard Taper		Full Bottom Taper	Qty
1	Fork	100 mm x 45 mm	125 mm x 50 mm	180 mm x 45 mm	
	914 mm (36 in)	1333018	367419		2
	1067 mm (42 in)	1333020	367420		2
	1207 mm (42.5 in)			1338098	2
	1219 mm (48 in)	1333021	367421		2
	1372 mm (54 in)		367422	1332745	2
	1524 mm (60 in)		367423		2
	1829 mm (72 in)	1333024	367424		2
2	Latch	369796	369796	369796	1

**NOTE: OTHER FORK DIMENSIONS AVAILABLE ON REQUEST, CONTACT YOUR HYSTER DEALER.**

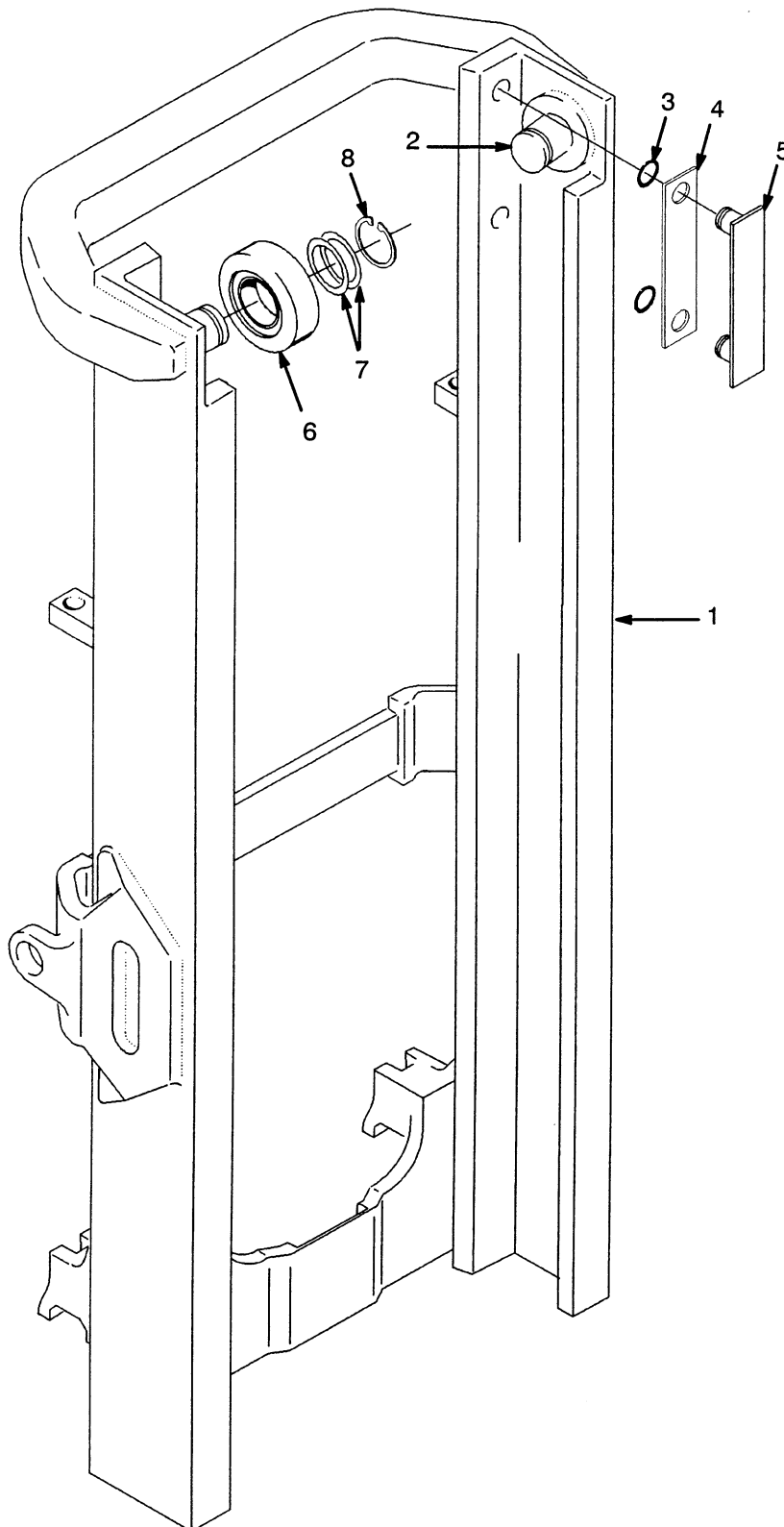


## This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

---

## THREE STAGE FULL FREE-LIFT

CARRIAGE (Figure 208) THREE STAGE FULL FREE-LIFT SIX ROLLER (LAST USED ON S/N B508V-4186, B563V-2161) .....	Page 391
CARRIAGE (Figure 209) THREE STAGE FULL FREE-LIFT SIX ROLLER (FIRST USED ON S/N B508V-4187, B563V-2162) .....	Page 392
FORKS (Figure 213) THREE STAGE FULL FREE-LIFT .....	Page 400
FREE LIFT (Figure 205) THREE STAGE FULL FREE-LIFT .....	Page 378
FREE-LIFT CYLINDER (Figure 207) THREE STAGE FULL FREE-LIFT .....	Page 384
HEADER HOSE (Figure 212) THREE STAGE FULL FREE-LIFT .....	Page 396
INNER MAST (Figure 203) THREE STAGE FULL FREE-LIFT .....	Page 374
INTERMEDIATE MAST (Figure 202) THREE STAGE FULL FREE-LIFT .....	Page 372
LOAD BACKREST EXTENSION (Figure 210) THREE STAGE FULL FREE-LIFT .....	Page 393
MAIN CYLINDER (Figure 206) THREE STAGE FULL FREE-LIFT .....	Page 382
MAIN LIFT (Figure 204) THREE STAGE FULL FREE-LIFT .....	Page 376
MAST INSTALLATION (Figure 211) THREE STAGE FULL FREE-LIFT .....	Page 394
OUTER MAST (Figure 201) THREE STAGE FULL FREE-LIFT .....	Page 370

**OUTER MAST (Figure 201)**  
**THREE STAGE FULL FREE-LIFT**

## OUTER MAST THREE STAGE FULL FREE-LIFT

### H45-55XM

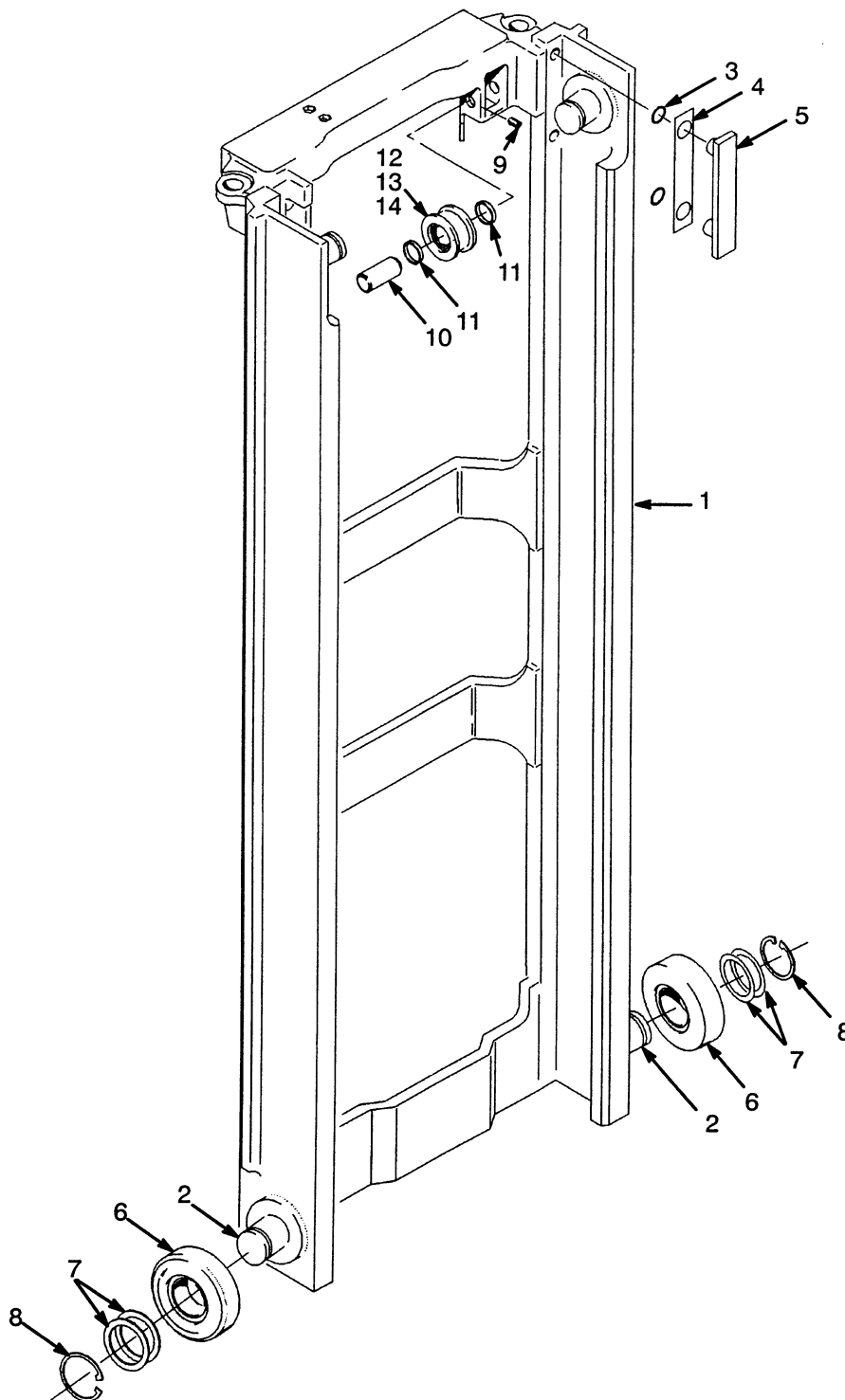
Ref No	Name Of Part 1 2 3 4	Lift Height To Bottom Of Forks			
		169.7 in	187.4 in	199.2 in	216.9 in
	<b>Mast Group No.</b>	<b>B508 4310</b>	<b>B508 4760</b>	<b>B508 5060</b>	<b>B508 5510</b>
1	Outer Mast	1341004	1341007	1341010	1341013

### H60-65XM

Ref No	Name Of Part 1 2 3 4	Lift Height To Bottom Of Forks			
		162.1 in	179.8 in	191.7 in	209.4 in
	<b>Mast Group No.</b>	<b>B563 4118</b>	<b>B563 4568</b>	<b>B563 4868</b>	<b>B563 5318</b>
1	Outer Mast	1341004	1341007	1341010	1341013

REF	PART NO.	NAME OF PART	QTY	REF	PART NO.	NAME OF PART	QTY
a	.....	Mast .....	1	6	1333396	Load Roller ("B" 0.76 mm) .....	2
1 a	.....	Outer Mast .....	1	6	1333397	Load Roller ("C" 1.52 mm) .....	2
2	1345216	Stub Shaft .....	2	7	129387	Shim (0.020 in) .....	AR
3	104506	O-Ring .....	4	8	58901	Snap Ring .....	2
4	131716	Shim (0.020 in) .....	4	a	☞ Table Above		
5	215211	Bearing Strip .....	2				
6	1395168	Load Roller ("A" Standard) .....	2				

## INTERMEDIATE MAST (Figure 202) THREE STAGE FULL FREE-LIFT



## INTERMEDIATE MAST THREE STAGE FULL FREE-LIFT

### H45-55XM

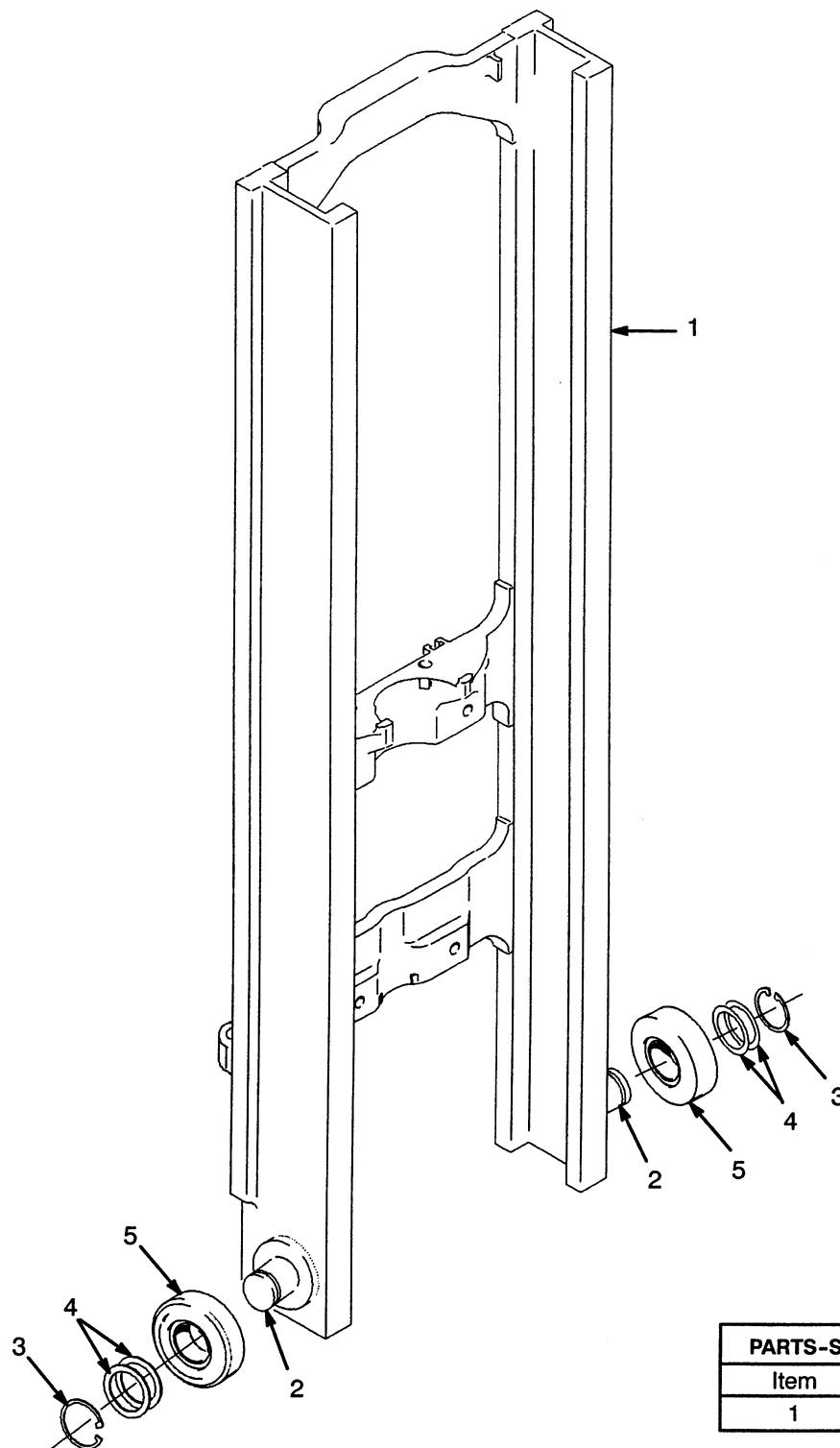
Ref No	Name Of Part 1 2 3 4	Lift Height To Bottom Of Forks			
		169.7 in	187.4 in	199.2 in	216.9 in
	<b>Mast Group No.</b>	<b>B508 4310</b>	<b>B508 4760</b>	<b>B508 5060</b>	<b>B508 5510</b>
1	Intermed. Mast	1341714	1341717	1341719	1341722

### H60-65XM

Ref No	Name Of Part 1 2 3 4	Lift Height To Bottom Of Forks			
		162.1 in	179.8 in	191.7 in	209.4 in
	<b>Mast Group No.</b>	<b>B563 4118</b>	<b>B563 4568</b>	<b>B563 4868</b>	<b>B563 5318</b>
1	Intermed. Mast	1341714	1341717	1341719	1341722

REF	PART NO.	NAME OF PART	QTY	REF	PART NO.	NAME OF PART	QTY
a	.....	Mast .....	1	12	1345181	Sheave .....	1
1 a	.....	Intermediate Mast .....	1	12	37752	Snap Ring .....	2
2	1345216	Stubshaft .....	4	12	231020	Bearing .....	1
3	104506	O-Ring .....	4	13 e	1379685	Chain Sheave (H45-55XM) ....	2
4	131716	Shim (0.020in) .....	4	13	1378698	Sheave .....	2
5	215211	Bearing .....	2	13	37752	Snap Ring .....	1
6	1395168	Load Roller ("A" Standard) ....	4	13	1378699	Bearing .....	1
6	1333396	Load Roller ("B" 0.76 mm) ....	4	14 e	1379684	Chain Sheave (H60-65XM) ....	2
6	1333397	Load Roller ("C" 1.52 mm) ....	4	14	1378694	Sheave .....	1
7	129387	Shim .....	AR	14	37752	Snap Ring .....	1
8	58901	Snap Ring .....	4	14	1378699	Bearing .....	1
9 b	302144	Setscrew .....	4	a	☞ Table Above		
9 c	302462	Pin .....	2	b	Last Used On Mast S/N B508B-9234, B508V-1513 & B563B-4904		
10 b	1333389	Pin .....	2	c	First Used On Mast S/N B508B-9235, B508V-1514, B563B-4905 & B563V-1501		
10 c	1368656	Pin .....	2	d	Last Used On S/N B508V-3250, B563V-2041		
11 d	1333644	Spacer .....	4	e	First Used On S/N B508V-3251, B563V-2042		
11 e	1378691	Spacer .....	4				
12 d	1345183	Chain Sheave .....	2				

## INNER MAST (Figure 203) THREE STAGE FULL FREE-LIFT



PARTS-SERVICE GRAM	
Item	Gram
1	I-E-37

**INNER MAST  
THREE STAGE FULL FREE-LIFT**

**H45-55XM**

Ref No	Name Of Part 1 2 3 4	Lift Height To Bottom Of Forks			
		169.7 in	187.4 in	199.2 in	216.9 in
	<b>Mast Group No.</b>	<b>B508 4310</b>	<b>B508 4760</b>	<b>B508 5060</b>	<b>B508 5510</b>
1	Inner Mast	<sup>b</sup> 1341879 <sup>c</sup> 1381354	<sup>b</sup> 1341882 <sup>c</sup> 1381357	<sup>b</sup> 1341884 <sup>c</sup> 1381359	<sup>b</sup> 1341887 <sup>c</sup> 1381362

- <sup>b</sup> Last Used On S/N B508V-4186  
<sup>c</sup> First Used On S/N B508V-4187

**H60-65XM**

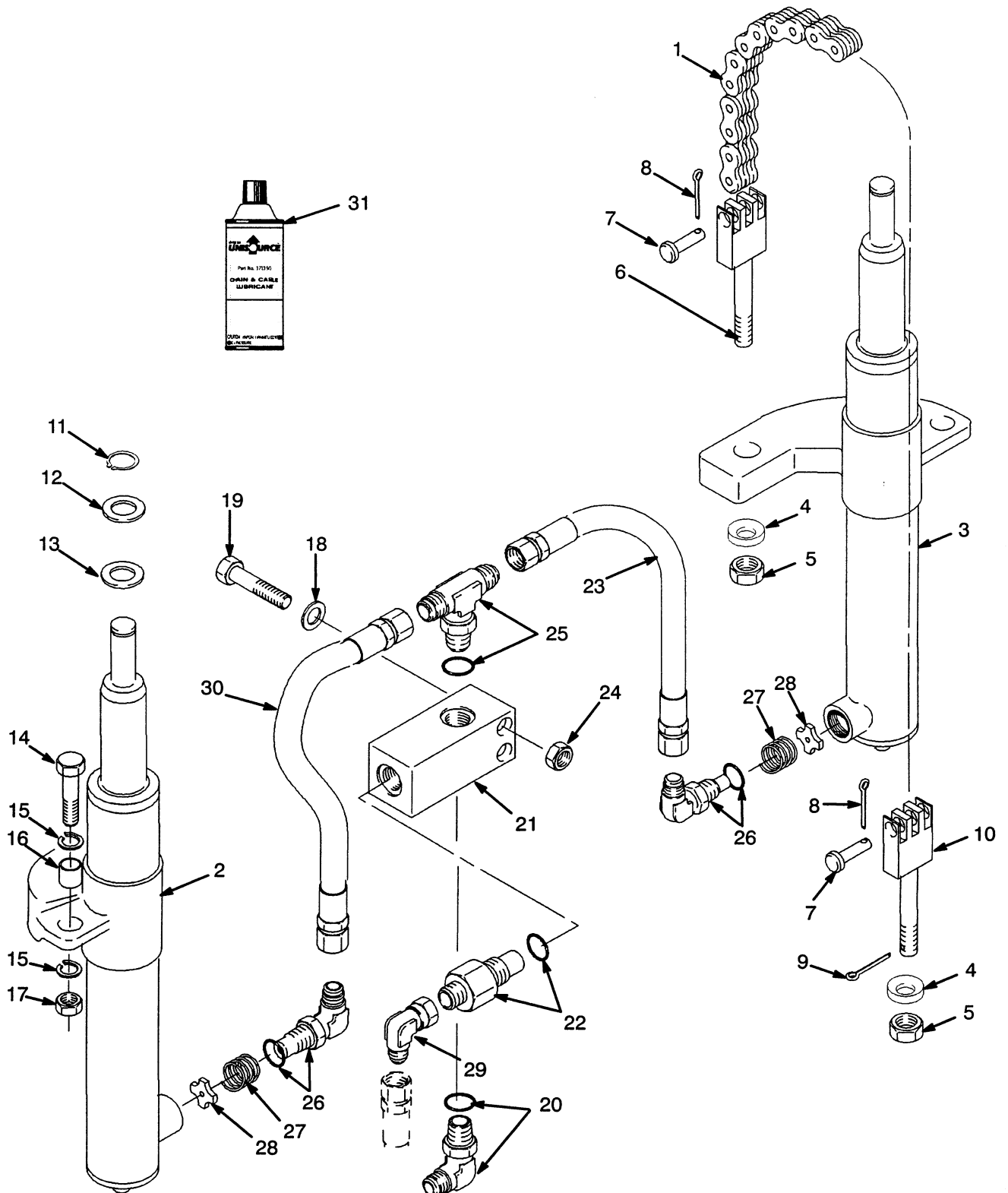
Ref No	Name Of Part 1 2 3 4	Lift Height To Bottom Of Forks			
		162.1 in	179.8 in	191.7 in	209.4 in
	<b>Mast Group No.</b>	<b>B563 4118</b>	<b>B563 4568</b>	<b>B563 4868</b>	<b>B563 5318</b>
1	Inner Mast	<sup>d</sup> 1341879 <sup>e</sup> 1381354	<sup>d</sup> 1341882 <sup>e</sup> 1381357	<sup>d</sup> 1341884 <sup>e</sup> 1381359	<sup>d</sup> 1341887 <sup>e</sup> 1381362

- <sup>d</sup> Last Used On S/N B563V-2161  
<sup>e</sup> First Used On S/N B563V-2162

REF	PART NO.	NAME OF PART	QTY	REF	PART NO.	NAME OF PART	QTY
<sup>a</sup>	.....	Mast .....	1	5	1395168	Load Roller ("A" Standard) .....	2
1 <sup>a</sup>	.....	Inner Mast .....	1	5	1333396	Load Roller ("B" 0.76 mm) .....	2
2	1345216	Stubshaft .....	2	5	1333397	Load Roller ("C" 1.52 mm) .....	2
3	58901	Snap Ring .....	2				
4	129387	Shim .....	AR	<sup>a</sup>	☞ Tables Above		



## MAIN LIFT (Figure 204) THREE STAGE FULL FREE-LIFT



**MAIN LIFT  
THREE STAGE FULL FREE-LIFT**

**H45-55XM**

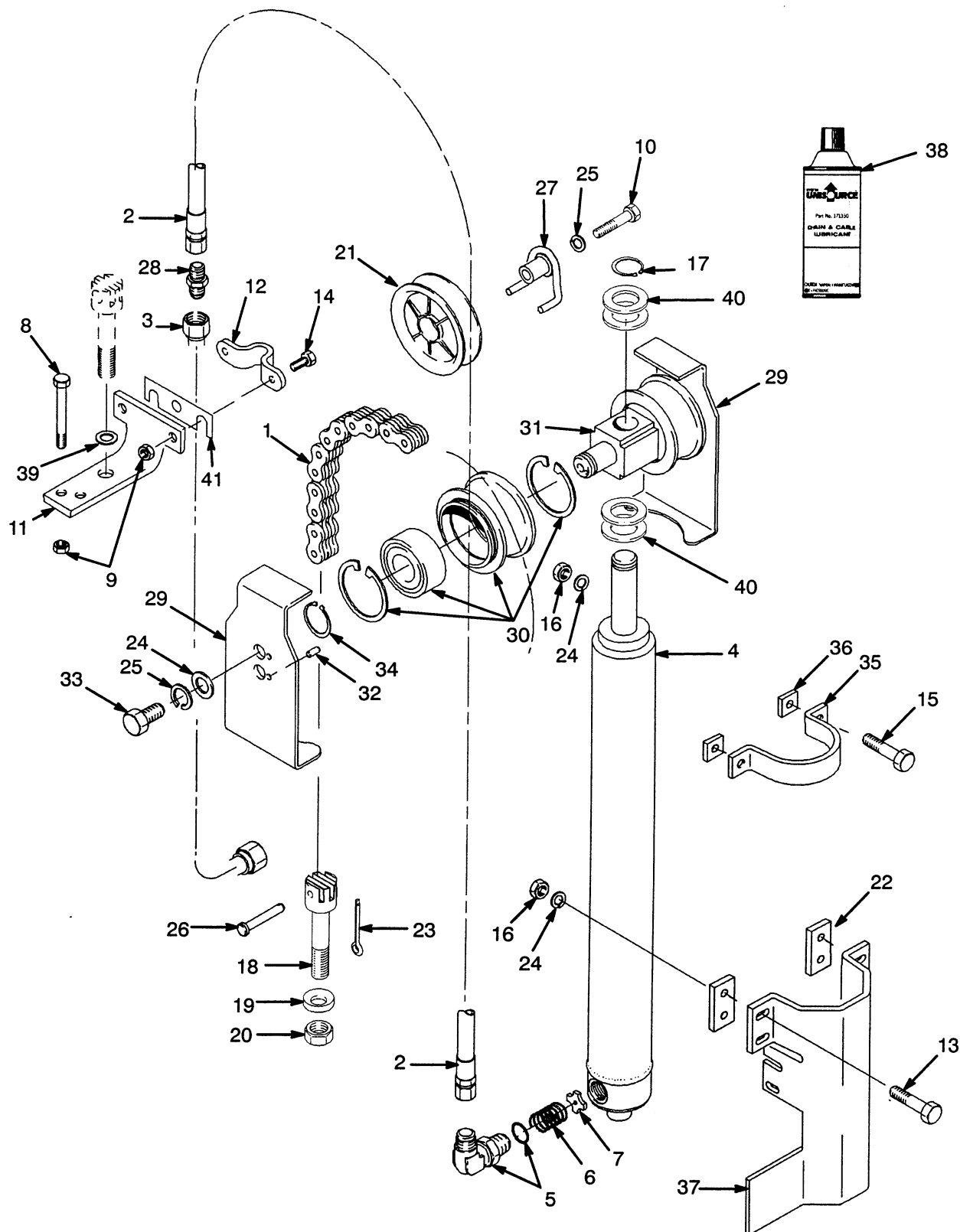
REF NO	NAME OF PART 1 2 3 4	LIFT HEIGHT TO BOTTOM OF FORKS			
		169.7 in	187.4 in	199.2 in	216.9 in
	<b>Mast Group No.</b>	<b>B508 4310</b>	<b>B508 4760</b>	<b>B508 5060</b>	<b>B508 5510</b>
1	Chain	182343	135634	129361	135588

**H60-65XM**

REF NO	NAME OF PART 1 2 3 4	LIFT HEIGHT TO BOTTOM OF FORKS			
		162.1 in	179.8 in	191.7 in	209.4 in
	<b>Mast Group No.</b>	<b>B563 4118</b>	<b>B563 4568</b>	<b>B563 4868</b>	<b>B563 5318</b>
1	Chain	1342120	1342123	1342384	1342129

REF	PART NO.	NAME OF PART	QTY	REF	PART NO.	NAME OF PART	QTY
		..... Mast .....	1	17	300937	Nut .....	2
1 a		..... Chain .....	2	18	320157	Washer .....	2
2		..... Cylinder (RH) .....	1	19	214364	Capscrew .....	2
		☞ Figure 206		20	184761	Fitting .....	1
3		..... Cylinder (LH) .....	1	20	16486	O-Ring .....	1
		☞ Figure 206		21	1333392	Valve Housing .....	1
4	297649	Base Ring .....	4	22 b	2309766	Lowering Control Valve .....	1
5	161003	Nut .....	4	22 c	316306	Lowering Control Valve .....	1
6 b	320313	Chain Anchor .....	2	22	16982	O-Ring .....	1
6 c	1333328	Chain Anchor .....	2	23	1345403	Hose .....	1
7	323161	Pin .....	4	24	313828	Nut .....	2
8	15200	Cotter Pin .....	4	25	16578	Fitting .....	1
9	15223	Cotter Pin .....	2	25	16485	O-Ring .....	1
10 b	1365140	Chain Anchor .....	2	26	189595	Fitting .....	2
10 c	1333329	Chain Anchor .....	2	26	16485	O-Ring .....	1
11	131358	Snap Ring .....	2	27	337179	Spring .....	2
12	1333382	Washer .....	2	28	357749	Special Washer .....	2
13	1354915	Washer .....	AR	29	16882	Fitting .....	1
13	1354916	Washer .....	AR	30	1462551	Hose .....	1
13	1354917	Washer .....	AR	31	171350	Chain Lubricant .....	AR
14	292532	Capscrew .....	2	a	☞ Table Above		
15	296422	Washer .....	4	b	H45-55XM		
16	323090	Spacer .....	2	c	H60-65XM		

## FREE LIFT (Figure 205) THREE STAGE FULL FREE-LIFT



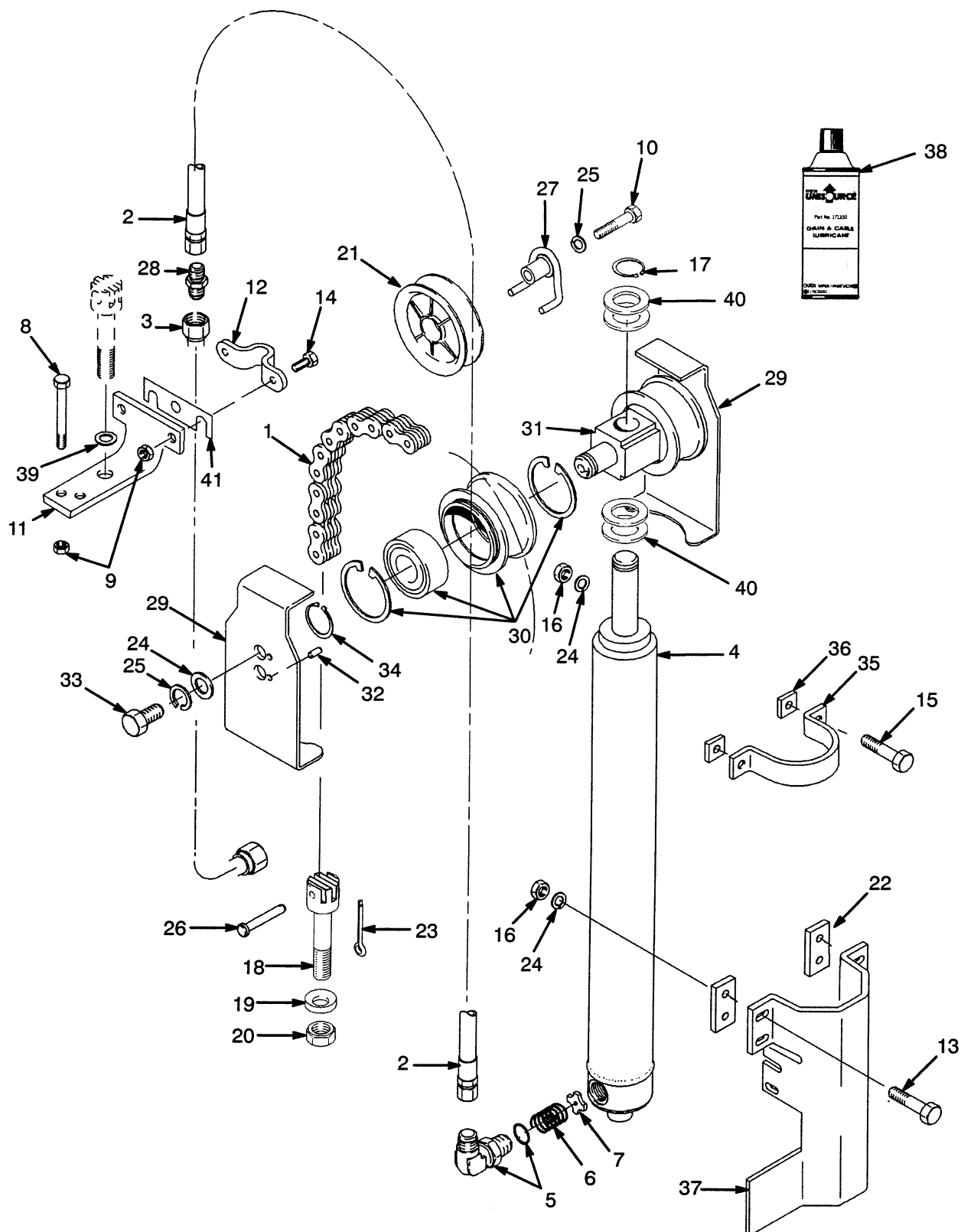
## FREE LIFT THREE STAGE FULL FREE-LIFT H45-55XM

Ref No	Name Of Part 1 2 3 4	Lift Height To Bottom Of Forks			
		169.7 in	187.4 in	199.2 in	216.9 in
	<b>Mast Group No.</b>	<b>B508 4310</b>	<b>B508 4760</b>	<b>B508 5060</b>	<b>B508 5510</b>
1	Chain	231082 <sup>a</sup> 197345 <sup>b</sup>	161059 <sup>a</sup> 180177 <sup>b</sup>	182332 <sup>a</sup> 180029 <sup>b</sup>	182343 <sup>a</sup> 180057 <sup>b</sup>
2	Hose	1342407	1342410	1342412	1342415
3	Tube	1345359	1345362	1345364	1345367

REF	PART NO.	NAME OF PART	QTY	REF	PART NO.	NAME OF PART	QTY
		Mast	1	28	17635	Fitting	1
1 c		Chain	2	29	1395285	Chain Guard	2
2 c		Hose	1	30 h	1354912	Chain Sheave	2
3 c		Tube	1	30	1354911	Sheave	1
4		Free-Lift Cylinder	1	30	37752	Snap Ring	2
		Figure 207		30	231020	Bearing	1
5	238637	Fitting	1	30 k	1379682	Chain Sheave	2
5	16485	O-Ring	1	30	1378692	Sheave	1
6	154355	Spring	1	30	37752	Snap Ring	1
7	356505	Special Washer	1	30	1378699	Bearing	1
8	136704	Capscrew	2	31 h	1337905	Crosshead	1
9	313828	Nut	4	31 k	1378690	Crosshead	1
10	292533	Capscrew	1	32	302461	Pin	2
11	1362390	Bracket	1	33	292527	Capscrew	2
12	1345401	Clamp	1	34	304526	Snap Ring	2
13	287837	Capscrew	4	35	1465504	Clamp	1
14	136681	Capscrew	2	36 d	1354902	Spacer	2
15 e	292529	Capscrew	2	37	1354962	Cylinder Guard Bracket	1
15 d	292530	Capscrew	2	38	171350	Chain Lubricant	AR
16	300937	Nut	6	39	320165	Washer	1
17	131358	Snap Ring	1	40 b	1362433	Spacer	4
18 ef	320313	Chain Anchor	2	41	325616	Spacer	AR
18 eg	1369357	Chain Anchor	2				
18 df	1333328	Chain Anchor	2	a	Last Used On Mast S/N B508B-9234, B508V-1513		
18 dg	1369356	Chain Anchor	2	b	First Used On Mast S/N B508B-9235, B508V-1514		
19	297649	Base Ring	2	c	Table Above		
20	161003	Nut	2	d	H60-65XM		
21	1343989	Hose Sheave	1	e	H45-55XM		
22 d	1354903	Spacer	2	f	Last Used On Mast S/N B508B-6199		
23	15200	Cotter Pin	2	g	First Used On Mast S/N B508B-6200		
24	320161	Washer	8	h	Last Used On S/N B508V-3250		
25	292683	Lockwasher	3	k	First Used On S/N B508V-3251		
26	323161	Pin	2				
27	1360534	Stubshaft	1				

CONTINUED ON NEXT PAGE

## FREE LIFT THREE STAGE FULL FREE-LIFT (Figure 205 Continued)



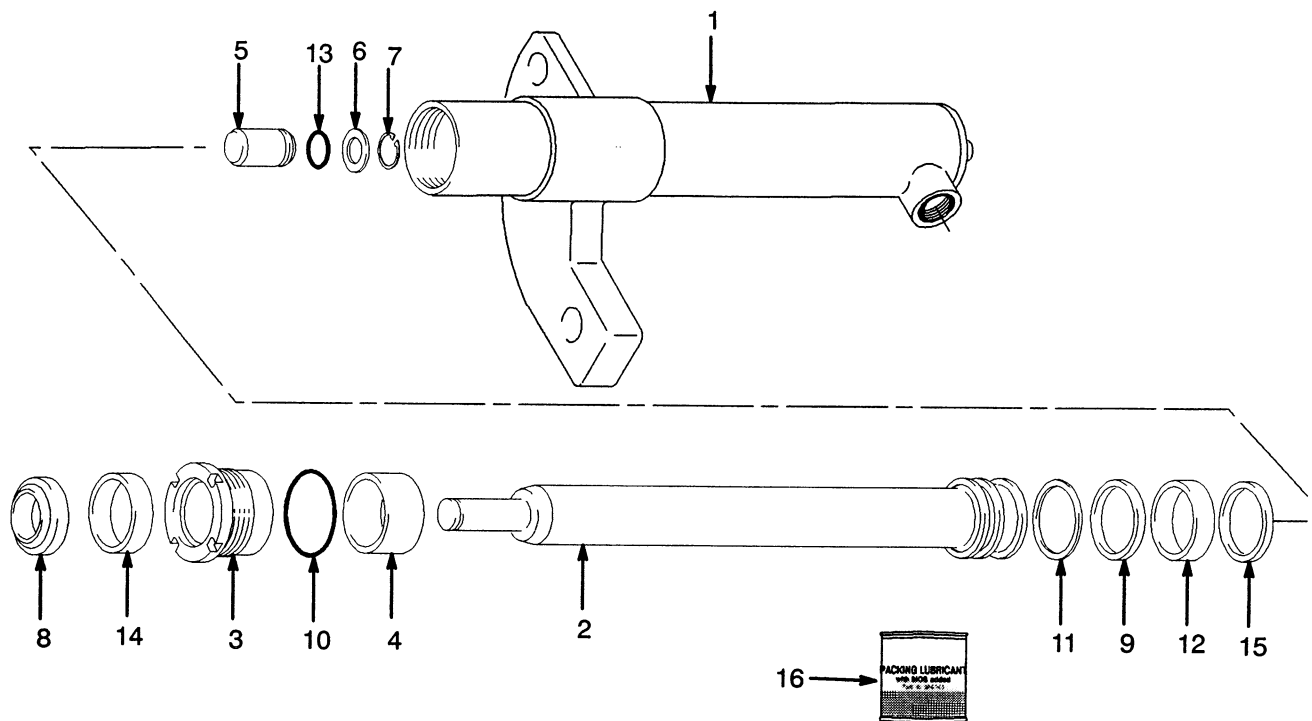
**FREE LIFT**  
**THREE STAGE FULL FREE-LIFT**  
**(Figure 205 Continued)**

**H60-65XM**

Ref No	Name Of Part 1 2 3 4	Lift Height To Bottom Of Forks			
		162.1 in	179.8 in	191.7 in	209.4 in
	<b>Mast Group No.</b>	<b>B563 4118</b>	<b>B563 4568</b>	<b>B563 4868</b>	<b>B563 5318</b>
1	Chain	1342374 <sup>a</sup> 1342391 <sup>b</sup>	1342377 <sup>a</sup> 1369328 <sup>b</sup>	1342379 <sup>a</sup> 1342118 <sup>b</sup>	1342120 <sup>a</sup> 1342121 <sup>b</sup>
2	Hose	1342407	1342410	1342412	1342415
3	Tube	1345359	1345362	1345364	1345367

REF	PART NO.	NAME OF PART	QTY	REF	PART NO.	NAME OF PART	QTY
		.... Mast	1	27	1360534	Stubshaft	1
1 c		.... Chain	2	28	17635	Fitting	1
2 c		.... Hose	1	29	1395285	Chain Guard	2
3 c		.... Tube	1	30 h		Chain Sheave	2
4		.... Free-Lift Cylinder	1	30	1345201	Sheave	1
		☞ Figure 207		30	37752	Snap Ring	2
5	238637	Fitting	1	30	231020	Bearing	1
5	16485	O-Ring	1	30 k	1379683	Chain Sheave	2
6	154355	Spring	1	30	1378693	Sheave	1
7	356505	Special Washer	1	30	37752	Snap Ring	1
8	136704	Capscrew	2	30	1378699	Bearing	1
9	313828	Nut	4	31 h	1337905	Crosshead	1
10	292533	Capscrew	1	31 k	1378690	Crosshead	1
11	1362390	Bracket	1	32	302461	Pin	2
12	1345401	Clamp	1	33	292527	Capscrew	2
13	287837	Capscrew	4	34	304526	Snap Ring	2
14	136681	Capscrew	2	35	1465504	Clamp	1
15 e	292529	Capscrew	2	36 d	1354902	Spacer	2
15 d	292530	Capscrew	2	37	1354962	Cylinder Guard Bracket	1
16	300937	Nut	6	38	171350	Chain Lubricant	AR
17	131358	Snap Ring	1	39	320165	Washer	1
18 ef	320313	Chain Anchor	2	40 b	1362433	Spacer	4
18 eg	1369357	Chain Anchor	2	41	325616	Spacer	AR
18 df	1333328	Chain Anchor	2	a	Last Used On Mast S/N B563B-4904		
18 dg	1369356	Chain Anchor	2	b	First Used On Mast S/N B563B-4905, B563V-1501		
19	297649	Base Ring	2	c	☞ Table Above		
20	161003	Nut	2	d	H60-65XM		
21	1343989	Hose Sheave	1	e	H45-55XM		
22 d	1354903	Spacer	2	f	Last Used On Mast S/N 563B-3499		
23	15200	Cotter Pin	2	g	First Used On Mast S/N 563B-3500		
24	320161	Washer	8	h	Last Used On S/N B563V-2041		
25	292683	Lockwasher	3	k	First Used On S/N B563V-2042		
26	323161	Pin	2				

## MAIN CYLINDER (Figure 206) THREE STAGE FULL FREE-LIFT



**MAIN CYLINDER  
THREE STAGE FULL FREE-LIFT**

Ref No	Name Of Part 1 2 3 4	Lift Height To Bottom Of Forks			
		169.7 in	187.4 in	199.2 in	216.9 in
	<b>Mast Group No.</b>	<b>B508 4310</b>	<b>B508 4760</b>	<b>B508 5060</b>	<b>B508 5510</b>
	Group # Cylinder (RH)	8600455 1341542	8600458 1341545	8600460 1341547	8600463 1341550
1	Shell	1355589	1355601	1355609	1355622
2	Rod	1355587	1355599	1355607	1355620
	Group # Cylinder (LH)	8600405 1341575	8600408 1341578	8600410 1341580	8600413 1341583
1	Shell	1358973	1355598	1355606	1355619
2	Rod	1355587	1355599	1355607	1355620
		162.1 in	179.8 in	191.7 in	209.4 in
	<b>Mast Group No.</b>	<b>B563 4118</b>	<b>B563 4568</b>	<b>B563 4868</b>	<b>B563 5318</b>
	Group # Cylinder (RH)	8600555 1341608	8600558 1341611	8600560 1341613	8600563 1341616
1	Shell	1355731	1355743	1355752	1355760
2	Rod	1355729	1355741	1355749	1355758
	Group # Cylinder (LH)	8600505 1341641	8600508 1341644	8600510 1341646	8600513 1341649
1	Shell	1355728	1355740	1355748	1355757
2	Rod	1355729	1355741	1355749	1355758

**KEY:**

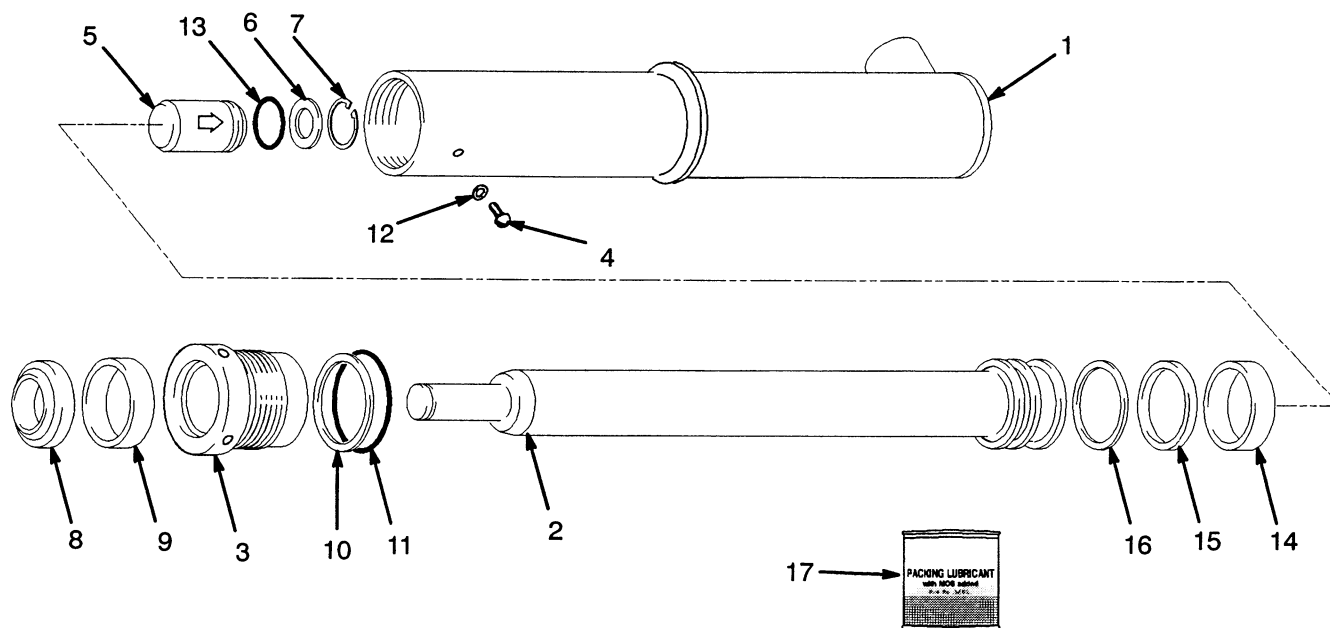
**A: H45-55XM**

**B: H60-65XM**

				QTY						QTY	
REF	PART NO.	NAME OF PART	A	B		REF	PART NO.	NAME OF PART	A	B	
a	.....	Mast .....	1	1		11 e	638246	Back-Up Ring .....	1	..	
a	.....	Main Cylinder .....	1	1		11 f	335012	Back-Up Ring .....	..	1	
1 a	.....	Shell .....	1	1		12 e	1356750	Wear Ring .....	1	..	
2 a	.....	Rod .....	1	1		12 f	1356751	Wear Ring .....	..	1	
3	1355496	Retainer .....	1	..		13 ef	39348	O-Ring .....	1	1	
3	1355713	Retainer .....	..	1		14 ef	1356749	Rod Seal .....	1	1	
4 b	1355610	Spacer .....	1	..		15 f	1356748	Piston Ring .....	..	1	
4 c	1355711	Spacer .....	..	1		15 e	1360127	Piston Ring .....	1	..	
4 d	1355751	Spacer .....	..	1		16	186061	Packing Lubricant .....	ARAR		
5	257913	Check Valve .....	1	1		a	Table Above				
6	297531	Washer .....	1	1		b	For Lift Heights 199.2 in. And 216.9 in.				
7	187388	Snap Ring .....	1	1		c	For Lift Heights 162.1 in. And 179.8 in.				
8 ef	1319668	Wiper .....	1	1		d	For Lift Heights 191.7 in. And 209.4 in.				
9 e	2013075	Seal .....	1	..		e	Included In Seal Kit 1355497				
9 f	334156	Seal .....	..	1		f	Included In Seal Kit 1355714				
10 e	92861	O-Ring .....	1	..							
10 f	59229	O-Ring .....	..	1							



## FREE-LIFT CYLINDER (Figure 207) THREE STAGE FULL FREE-LIFT



**FREE-LIFT CYLINDER  
THREE STAGE FULL FREE-LIFT  
H45-55XM**

**Last Used On Mast S/N B508B-9234, B508V-1513**

Ref No	Name Of Part 1 2 3 4	Lift Height To Bottom Of Forks			
		169.7 in	187.4 in	199.2 in	216.9 in
	<b>Mast Group No.</b>	<b>B508 4310</b>	<b>B508 4760</b>	<b>B508 5060</b>	<b>B508 5510</b>
	Group # Cylinder	8601106 1342045	8601109 1342048	8601112 1342051	8601115 1342054
1	Shell	1356556	1356565	1356574	1356583
2	Rod	1356557	1356566	1356575	1356584

**Used On Mast S/N B508B-9235, B508V-1514, Thru S/N B508V-18484 Except B508V-B508V-18477**

Ref No	Name Of Part 1 2 3 4	Lift Height To Bottom Of Forks			
		169.7 in	187.4 in	199.2 in	216.9 in
	<b>Mast Group No.</b>	<b>B508 4310</b>	<b>B508 4760</b>	<b>B508 5060</b>	<b>B508 5510</b>
	Group # Cylinder	8603406 2309480	8603409 2303951	8603412 2302115	8603415 2303489
1	Shell	2303871	2311434	2310036	2309770
2	Rod	2306774	2311141	2302486	2309044

**First Used On Mast S/N B508V-18484 Including B508V-18477**

Ref No	Name Of Part 1 2 3 4	Lift Height To Bottom Of Forks			
		169.7 in	187.4 in	199.2 in	216.9 in
	<b>Mast Group No.</b>	<b>B508 4310</b>	<b>B508 4760</b>	<b>B508 5060</b>	<b>B508 5510</b>
	Group # Cylinder	8602406 1366733	8602409 1366736	8602412 1366739	8602415 1366742
1	Shell	2303871	2311434	2310036	2309770
2	Rod	1356560	1366569	1356578	1371631

**CONTINUED ON NEXT PAGE**

## FREE-LIFT CYLINDER THREE STAGE FULL FREE-LIFT H45-55XM

### KEY:

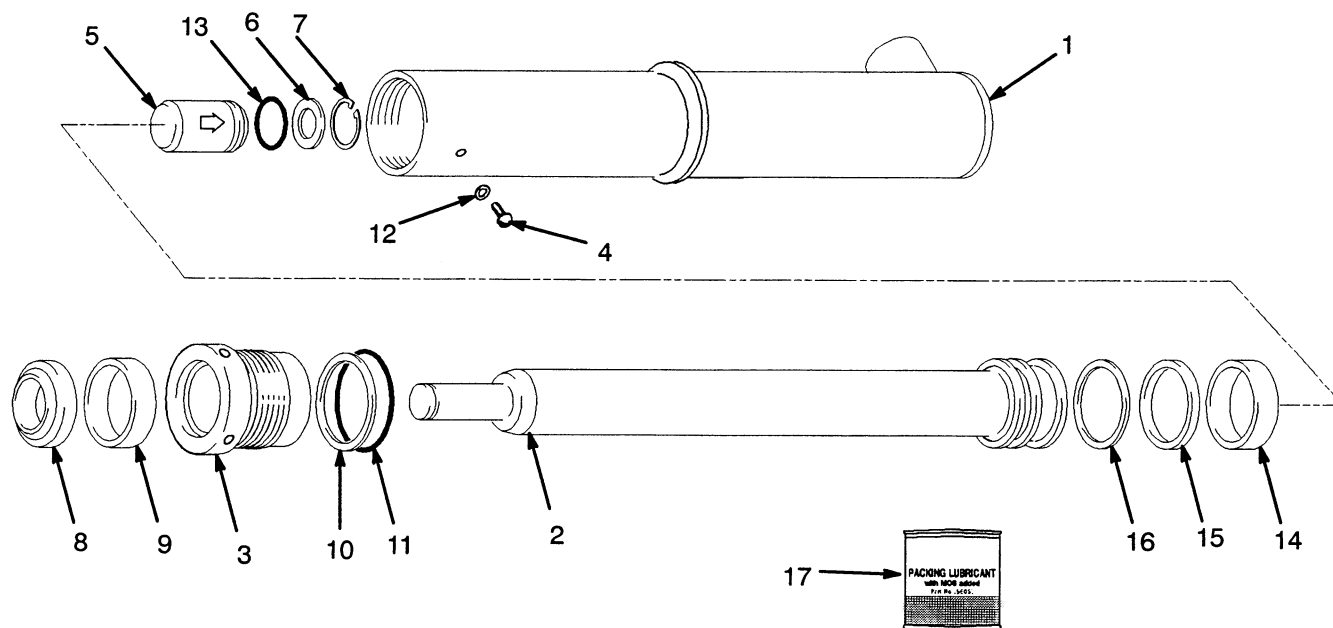
A: H45-55XM

B: H60-65XM

REF	PART NO.	NAME OF PART	QTY		REF	PART NO.	NAME OF PART	QTY	
			A	B				A	B
	<b>c</b>	..... Mast .....	1	1	12	<b>de</b>	190887 Seal .....	1	1
	<b>c</b>	..... Free-Lift Cylinder .....	1	1	13	<b>de</b>	39348 Seal .....	1	1
1	<b>c</b>	..... Shell .....	1	1	14	<b>d</b>	1358972 Wear Ring .....	1	..
2	<b>c</b>	..... Rod .....	1	1	14	<b>e</b>	636941 Wear Ring .....	..	1
3		1356292 Retainer .....	1	..	15	<b>d</b>	2013088 Seal .....	1	..
3		1356661 Retainer .....	..	1	15	<b>e</b>	309062 Seal .....	..	1
4	<b>a</b>	295649 Screw .....	1	1	16	<b>d</b>	2013089 Back-Up Ring .....	1	..
4	<b>b</b>	1361302 Screw .....	1	1	16	<b>e</b>	637565 Back-Up Ring .....	..	1
5		257913 Check Valve .....	1	1	17		186061 Packing Lubricant .....	ARAR	
6		297531 Washer .....	1	1		<b>a</b>	Last Used On Mast S/N B508B-9234, B508V-1513 & B563B-4904		
7		187388 Snap Ring .....	1	1		<b>b</b>	First Used On Mast S/N B508B-9235, B508V-1514, B563B-4905 & B563V-1501		
8	<b>de</b>	2013099 Rod Wiper .....	1	1		<b>c</b>	☞ Table Above		
9	<b>de</b>	1358970 Rod Seal .....	1	1		<b>d</b>	Included In Seal Kit 1358969		
10	<b>d</b>	147973 Back-Up Ring .....	1	..		<b>e</b>	Included In Seal Kit 1356662		
10	<b>e</b>	164840 Back-Up Ring .....	..	1					
11	<b>d</b>	90263 O-Ring .....	1	..					
11	<b>e</b>	15880 O-Ring .....	..	1					

## This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

## FREE-LIFT CYLINDER THREE STAGE FULL FREE-LIFT (Figure 207 Continued)



**FREE-LIFT CYLINDER  
THREE STAGE FULL FREE-LIFT  
H60-65XM  
(Figure 207 Continued)**

**Last Used On Mast S/N B563B-4904**

Ref No	Name Of Part 1 2 3 4	Lift Height To Bottom Of Forks			
		162.1 in	179.8 in	191.7 in	209.4 in
	<b>Mast Group No.</b>	<b>B563 4118</b>	<b>B563 4568</b>	<b>B563 4868</b>	<b>B563 5318</b>
	Group # Cylinder	8601207 1341676	8601210 1341679	8601213 1341682	8601216 1341685
1	Shell	1356678	1356687	1356061	1356070
2	Rod	1356679	1356688	1356062	1356071

**Used On Mast S/N B563V-1501 Thru S/N B563V-7094**

Ref No	Name Of Part 1 2 3 4	Lift Height To Bottom Of Forks			
		162.1 in	179.8 in	191.7 in	209.4 in
	<b>Mast Group No.</b>	<b>B563 4118</b>	<b>B563 4568</b>	<b>B563 4868</b>	<b>B563 5318</b>
	Group # Cylinder	8603507 2310270	8603510 2302410	8603513 2303532	8603516 2307773
1	Shell	2311691	2305742	2309026	2309353
2	Rod	2303824	2304216	2309410	2303899

**First Used On Mast S/N B563V-7095**

Ref No	Name Of Part 1 2 3 4	Lift Height To Bottom Of Forks			
		162.1 in	179.8 in	191.7 in	209.4 in
	<b>Mast Group No.</b>	<b>B563 4118</b>	<b>B563 4568</b>	<b>B563 4868</b>	<b>B563 5318</b>
	Group # Cylinder	8602507 1369549	8602510 1371602	8602513 1371605	8602516 1371608
1	Shell	2311691	2305742	2309026	2309353
2	Rod	1356682	1356691	1356065	1356074

**CONTINUED ON NEXT PAGE**

## FREE-LIFT CYLINDER THREE STAGE FULL FREE-LIFT H60-65XM (Figure 207 Continued)

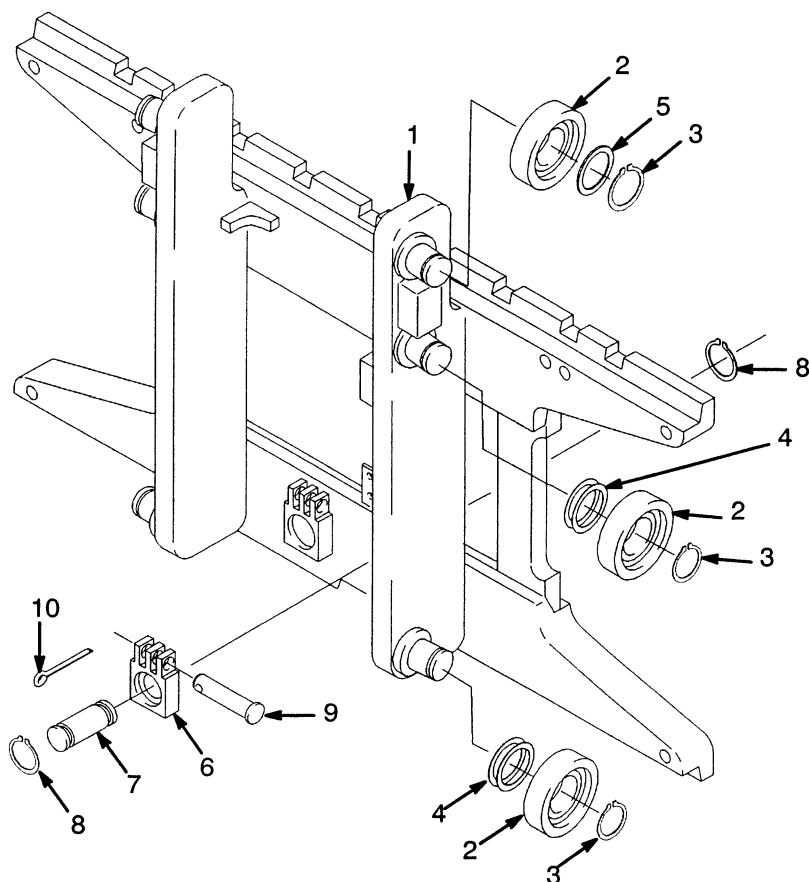
**KEY:**

**A:** H45-55XM

**B:** H60-65XM

REF	PART NO.	NAME OF PART	QTY		REF	PART NO.	NAME OF PART	QTY	
			A	B				A	B
	<b>c</b>	Mast .....	1	1	12	<b>de</b> 190887	Seal .....	1	1
	<b>c</b>	Free-Lift Cylinder .....	1	1	13	<b>de</b> 39348	Seal .....	1	1
1	<b>c</b>	Shell .....	1	1	14	<b>d</b> 1358972	Wear Ring .....	1	..
2	<b>c</b>	Rod .....	1	1	14	<b>e</b> 636941	Wear Ring .....	..	1
3	1356292	Retainer .....	1	..	15	<b>d</b> 2013088	Seal .....	1	..
3	1356661	Retainer .....	..	1	15	<b>e</b> 309062	Seal .....	..	1
4	<b>a</b> 295649	Screw .....	1	1	16	<b>d</b> 2013089	Back-Up Ring .....	1	..
4	<b>b</b> 1361302	Screw .....	1	1	16	<b>e</b> 637565	Back-Up Ring .....	..	1
5	257913	Check Valve .....	1	1	17	186061	Packing Lubricant .....	ARAR	
6	297531	Washer .....	1	1					
7	187388	Snap Ring .....	1	1	<b>a</b>	Last Used On Mast S/N B508B-9234, B508V-1513 & B563B-4904			
8	<b>de</b> 2013099	Rod Wiper .....	1	1	<b>b</b>	First Used On Mast S/N B508B-9235, B508V-1514, B563B-4905 & B563V-1501			
9	<b>de</b> 1358970	Rod Seal .....	1	1	<b>c</b>	☞ Table Above			
10	<b>d</b> 147973	Back-Up Ring .....	1	..	<b>d</b>	Included In Seal Kit 1358969			
10	<b>e</b> 164840	Back-Up Ring .....	..	1	<b>e</b>	Included In Seal Kit 1356662			
11	<b>d</b> 90263	O-Ring .....	1	..					
11	<b>e</b> 15880	O-Ring .....	..	1					

**CARRIAGE (Figure 208)**  
**THREE STAGE FULL FREE-LIFT**  
**SIX ROLLER (LAST USED ON S/N B508V-4186, B563V-2161)**



	H45-55XM	H60-65XM
<b>Group No.</b>	8500009	8500010
Carriage	1343842	1343843

**KEY:**

**A: H45-55XM**

**B: H60-65XM**

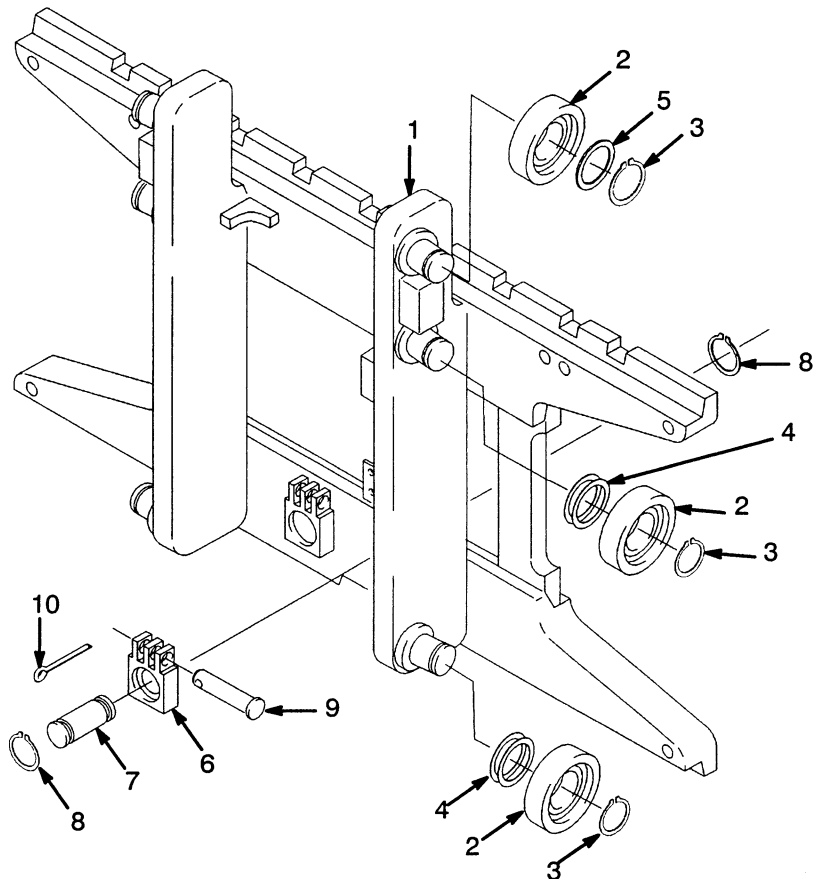
REF	PART NO.	NAME OF PART	QTY		REF	PART NO.	NAME OF PART	QTY	
			A	B				A	B
a	.....	Carriage Assy .....	1	..	4	129387	Shim .....	AR	AR
a	.....	Carriage Assy .....	..	1	5	366115	Spacer .....	2	2
1	1338528	Carriage .....	1	..	6	1369345	Chain Anchor .....	2	..
1	1338530	Carriage .....	..	1	6	1369344	Chain Anchor .....	..	2
1	1345216	Stubshaft .....	6	6	7	317735	Pin .....	2	2
2	1333398	Load Roller .....	6	6	8	131358	Snap Ring .....	4	4
2	1395169	Load Roller ("A" Standard) ..	6	6	9	323161	Pin .....	2	2
2	1333399	Load Roller ("B" 0.76 mm) ..	6	6	10	15200	Cotter Pin .....	2	2
2	1337900	Load Roller ("C" 1.52 mm) ..	6	6					
3	58901	Snap Ring .....	6	6	a	Table Above			



## CARRIAGE (Figure 209)

### THREE STAGE FULL FREE-LIFT

### SIX ROLLER (FIRST USED ON S/N B508V-4187, B563V-2162)



	H45-55XM	H60-65XM
<b>Group No.</b>	8500276	8500275
<b>Carriage</b>	1379459	1379460

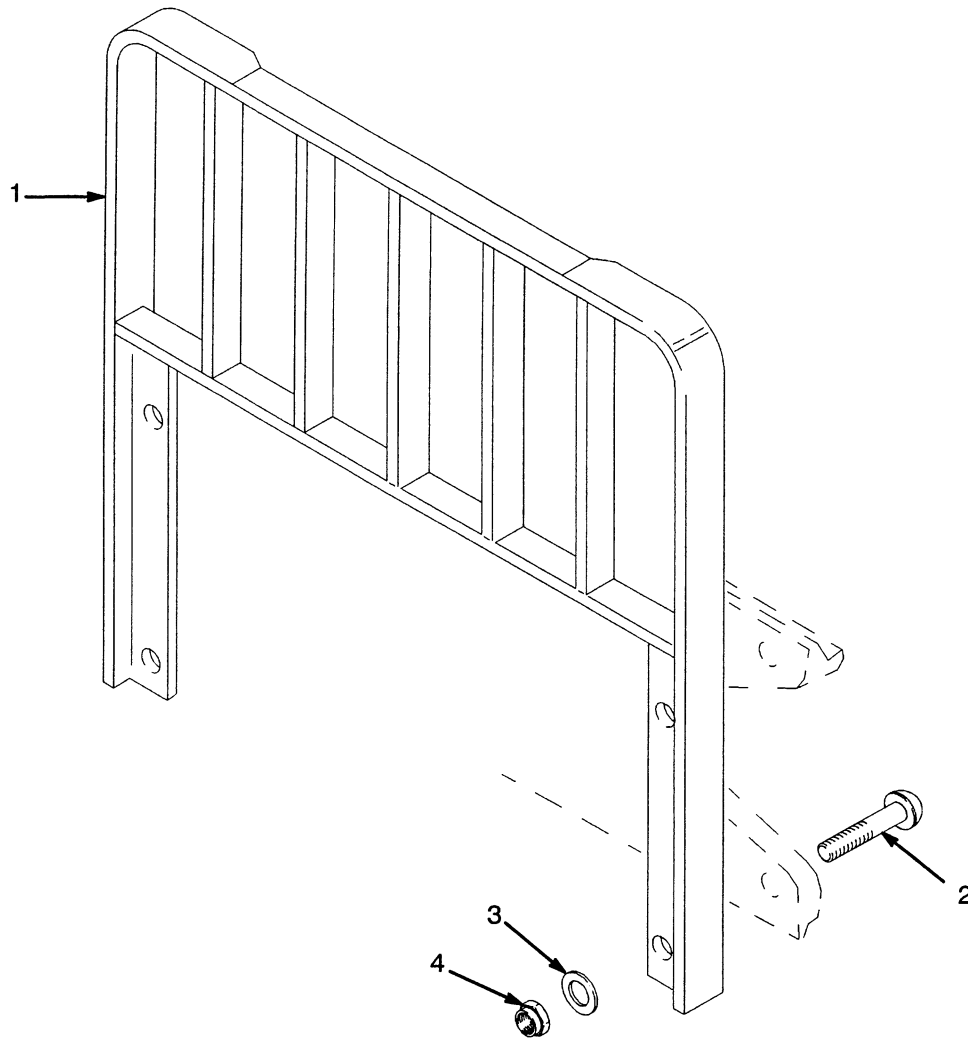
**KEY:**

A: H45-55XM

B: H60-65XM

REF	PART NO.	NAME OF PART	QTY		REF	PART NO.	NAME OF PART	QTY	
			A	B				A	B
a		Carriage Assy	1	..	4	129387	Shim	AR	AR
a		Carriage Assy	..	1	5	366115	Spacer	2	2
1	1381560	Carriage	1	..	6	1369345	Chain Anchor	2	..
1	1381561	Carriage	..	1	6	1369344	Chain Anchor	..	2
1	1345216	Stubshaft	6	6	7	317735	Pin	2	2
2	1333398	Load Roller	6	6	8	131358	Snap Ring	4	4
2	1395169	Load Roller ("A" Standard)	..	6 6	9	323161	Pin	2	2
2	1333399	Load Roller ("B" 0.76 mm)	..	6 6	10	15200	Cotter Pin	2	2
2	1337900	Load Roller ("C" 1.52 mm)	..	6 6					
3	58901	Snap Ring	6	6	a	☞ Table Above			

**LOAD BACKREST EXTENSION (Figure 210)**  
**THREE STAGE FULL FREE-LIFT**



**KEY:**

A: H45-55XM  
B: H60-65XM

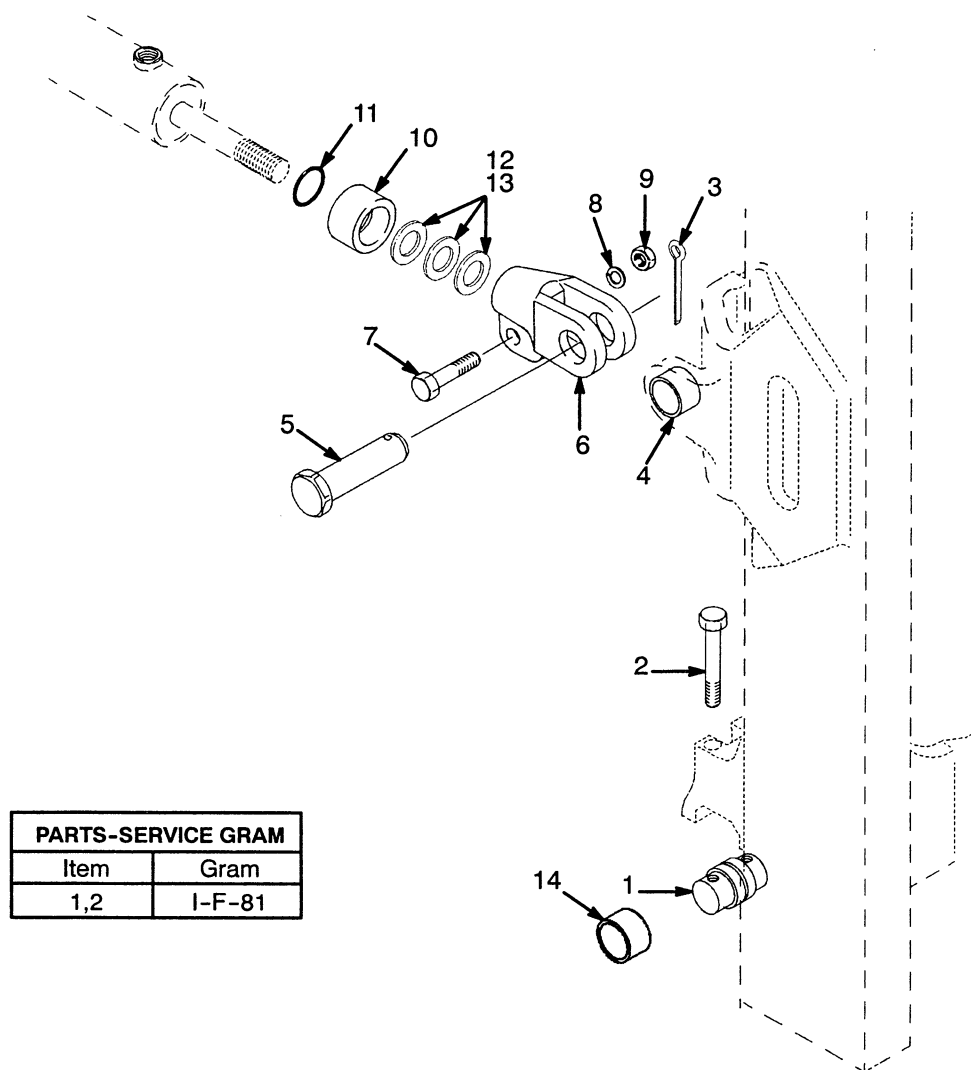
REF	PART NO.	NAME OF PART	QTY	
			A	B
1	1338642	Load Backrest Extension	1	..
1	1338645	Load Backrest Extension	..	1
1 <sup>a</sup>	1345267	Load Backrest Extension	..	1
2	1343990	Capscrew	4	..
2	1354923	Capscrew	..	4
3	221771	Washer	4	4

REF	PART NO.	NAME OF PART	QTY	
			A	B
3 <sup>b</sup>	296423	Washer	4	4
4	300937	Nut	4	4

<sup>a</sup> For Polished Forks W/Full Bottom Taper

<sup>b</sup> Optional

## MAST INSTALLATION (Figure 211) THREE STAGE FULL FREE-LIFT



PARTS-SERVICE GRAM	
Item	Gram
1,2	I-F-81

### KEY:

A: 6° Forward Tilt/10° Back Tilt

B: 6° Forward Tilt/6° Back Tilt

C: 6° Forward Tilt/5° Back Tilt

REF	PART NO.	NAME OF PART	QTY		
			A	B	C
1 <sup>a</sup>	1333386	Pin	2	2	2
1 <sup>b</sup>	1376424	Pin	2	2	2
2 <sup>a</sup>	293659	Capscrew	4	4	4
2 <sup>b</sup>	1376423	Capscrew	4	4	4
3	15236	Cotter Pin	2	2	2
4	300982	Bushing	2	2	2
5	1345354	Pin	2	2	2
6	1307641	Rod End	2	2	2
7	293650	Capscrew	2	2	2
8	292683	Lockwasher	2	2	2
9	216877	Nut	2	2	2

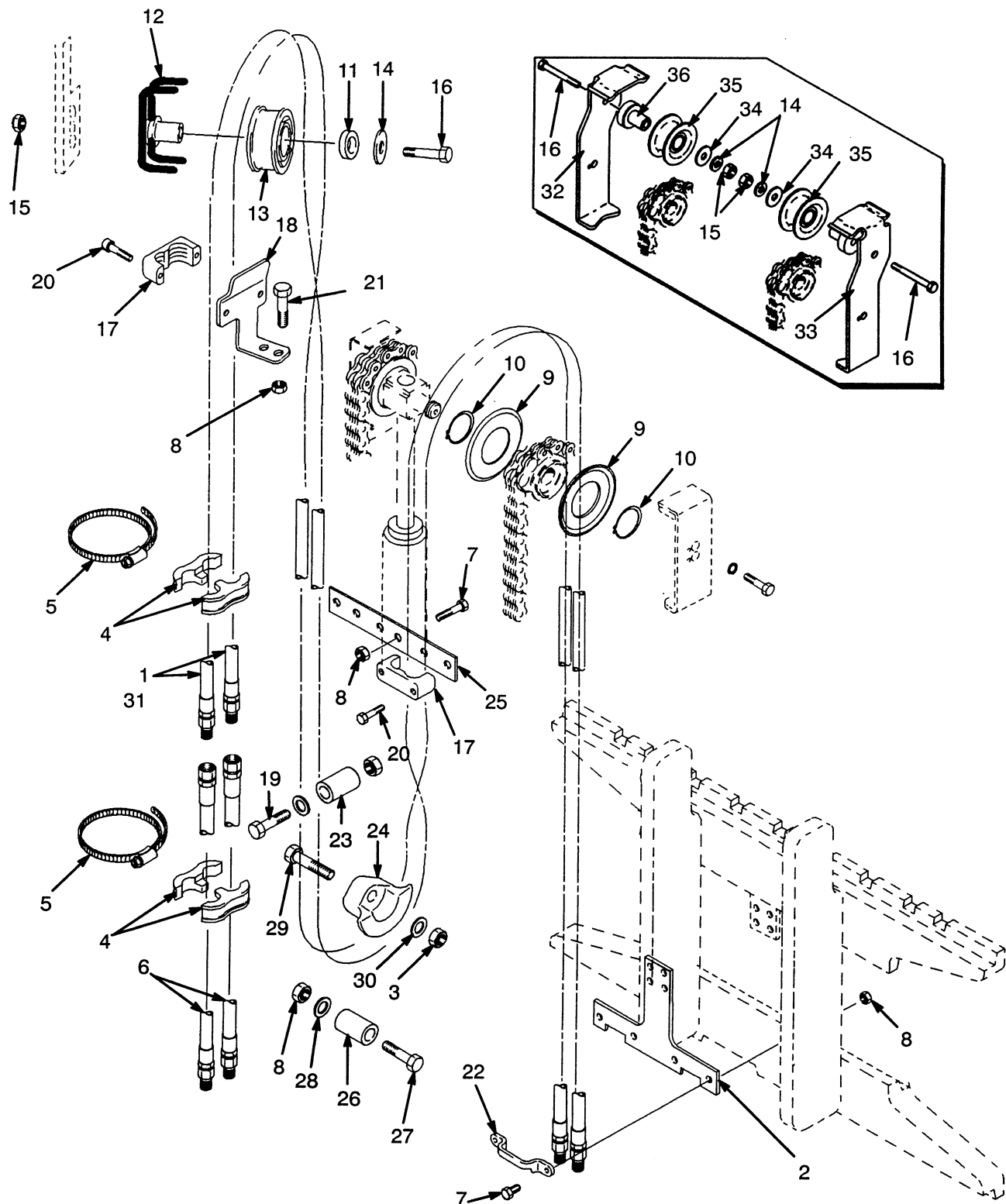
REF	PART NO.	NAME OF PART	QTY		
			A	B	C
10	1451788	Spacer	2	..	..
10	384101	Spacer	..	2	..
11	55434	O-Ring	2	2	..
12	134675	Shim	..	AR	AR
13	1325119	Shim	..	AR	AR
13	1361948	Shim	..	AR	..
14	1333385	Bushing	2	2	2
14	1380115	Bushing (Optional)	2	2	2

<sup>a</sup> First Used On S/N D177B-19806

<sup>b</sup> Last Used On S/N D177B-19807

## This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

## HEADER HOSE (Figure 212) THREE STAGE FULL FREE-LIFT



## HEADER HOSE THREE STAGE FULL FREE-LIFT

Ref No	Name Of Part 1 2 3 4	Lift Height To Bottom Of Forks			
		169.7 in	187.4 in	199.2 in	216.9 in
	<b>Mast Group No.</b>	<b>B508 4310</b>	<b>B508 4760</b>	<b>B508 5060</b>	<b>B508 5510</b>
1	Hose	<sup>d</sup> 1358352	<sup>d</sup> 1369625	<sup>d</sup> 1358355	<sup>d</sup> 1369627
1	Hose	<sup>e</sup> 1368411	<sup>e</sup> 1376131	<sup>e</sup> 1376161	<sup>e</sup> 1376164
2	Bracket	<sup>b</sup> 1369323	<sup>b</sup> 1369323	<sup>b</sup> 1369323	<sup>b</sup> 1369323
2	Bracket	<sup>c</sup> 1381771	<sup>c</sup> 1381771	<sup>c</sup> 1381771	<sup>c</sup> 1381771
		162.1 in	179.8 in	191.7 in	209.4 in
	<b>Mast Group No.</b>	<b>B563 4118</b>	<b>B563 4568</b>	<b>B563 4868</b>	<b>B563 5318</b>
1	Hose	<sup>d</sup> 1358352	<sup>d</sup> 1369625	<sup>d</sup> 1358355	<sup>d</sup> 1369627
1	Hose	<sup>e</sup> 1368411	<sup>e</sup> 1376131	<sup>e</sup> 1376161	<sup>e</sup> 1376164
2	Bracket	<sup>b</sup> 1369324	<sup>b</sup> 1369324	<sup>b</sup> 1369324	<sup>b</sup> 1369324
2	Bracket	<sup>c</sup> 1381772	<sup>c</sup> 1381772	<sup>c</sup> 1381772	<sup>c</sup> 1381772
31	Hose	<sup>e</sup> 1368445	<sup>e</sup> 1398951	<sup>e</sup> 1396943	<sup>e</sup> 1398595

- <sup>b</sup> Last Used on S/N B508V-12601, B563V-4769  
<sup>c</sup> First Used on S/N B508V-12602, B563V-4770  
<sup>d</sup> Last Used On S/N B508V-24129, B563V-9115  
<sup>e</sup> First Used On S/N B508V-24130, B563V-9116

**KEY:**

**A: Three Function**

**B: Four Function**

REF	PART NO.	NAME OF PART	QTY		REF	PART NO.	NAME OF PART	QTY	
			A	B				A	B
	.....	Mast .....	1	1	6	1354922	Hose, RH .....	2	2
1 <sup>a</sup>	.....	Hose .....	2	4	6	1354904	Hose, LH .....	..	2
2 <sup>a</sup>	.....	Bracket .....	1	1	7	136749	Capscrew .....	8	10
3	316826	Nut .....	1	2	8	313828	Locknut .....	9	12
4	1353530	Clamp .....	4	8	9	1345199	Hose Guide .....	2	4
5	1360507	Clamp .....	2	4	10	1345204	Snap Ring .....	2	4

CONTINUED ON NEXT PAGE

## HEADER HOSE THREE STAGE FULL FREE-LIFT

**KEY:**

**A: Three Function**

**B: Four Function**

REF	PART NO.	NAME OF PART	QTY	
			A	B
11	1360549	Spacer .....	1	2
12	1362387	Stubshaft .....	1	2
13	1381595	Hose Sheave .....	1	2
14	1345190	Washer .....	1	2
15	1390182	Nut .....	1	2
16	292533	Capscrew .....	1	2
17	1360386	Clamp .....	2	4
18	1354906	Bracket, RH .....	1	1
18	1354907	Bracket, LH .....	..	1
19	292534	Capscrew .....	1	2
20	293795	Capscrew .....	4	8
21	136704	Capscrew .....	2	4
22	1369333	Clamp .....	1	2
23	1360538	Tube .....	1	2
24	1360536	Hose Guide (RH) .....	1	1

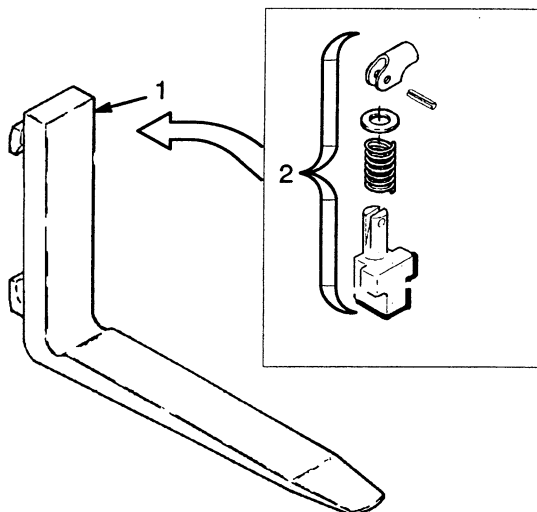
REF	PART NO.	NAME OF PART	QTY	
			A	B
24	1360537	Hose Guide (LH) .....	..	1
25	1353464	Plate .....	1	1
26	1354961	Hose Restraint .....	1	2
27	214364	Capscrew .....	1	2
28	320158	Washer .....	1	2
29	287860	Capscrew .....	1	2
30	320160	Washer .....	1	2
31	.....	Hose .....	..	2
32	1395291	Hose Guard Bracket RH ....	1	1
33 <sup>e</sup>	1395292	Hose Guard Bracket LH ....	..	1
34 <sup>e</sup>	1396407	Spacer .....	1	2
35 <sup>e</sup>	1345190	Sheave .....	1	2
36 <sup>e</sup>	1396406	Stubshaft .....	1	2

<sup>a</sup>  Table Above

## This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.



## FORKS (Figure 213) THREE STAGE FULL FREE-LIFT



### H45-55XM

Ref No	Name Of Part 1 2 3 4	Standard Taper		Full Bottom Taper	Qty
1	Fork	125 mm x 40 mm	100 mm x 40 mm	125 mm x 40 mm	
	762 mm (30 in)	1326660	384210		2
	914 mm (36 in)	1326661	384211	1338087	2
	1067 mm (42 in)	1326663	384213	1338088	2
	1219 mm (48 in)	1326664	384214	1338089	2
	1372 mm (54 in)	1326665	384215		2
	1524 mm (60 in)	1326666	384216		2
2	Latch	369795	369795	369795	1

**NOTE: OTHER FORK DIMENSIONS AVAILABLE ON REQUEST, CONTACT YOUR HYSTER DEALER.**

**FORKS**  
**THREE STAGE FULL FREE-LIFT MAST**  
**(Figure 213 Continued)**

**H60-65XM**

Ref No	Name Of Part 1 2 3 4	Standard Taper		Full Bottom Taper	Qty
1	Fork	100 mm x 45 mm	125 mm x 50 mm	180 mm x 45 mm	
	914 mm (36 in)	1333018	367419		2
	1067 mm (42 in)	1333020	367420		2
	1207 mm (42.5 in)			1338098	2
	1219 mm (48 in)	1333021	367421		2
	1372 mm (54 in)		367422	1332745	2
	1524 mm (60 in)		367423		2
	1829 mm (72 in)	1333024	367424		2
2	Latch	369796	369796	369796	1

**NOTE: OTHER FORK DIMENSIONS AVAILABLE ON REQUEST, CONTACT YOUR  
HYSTER DEALER.**

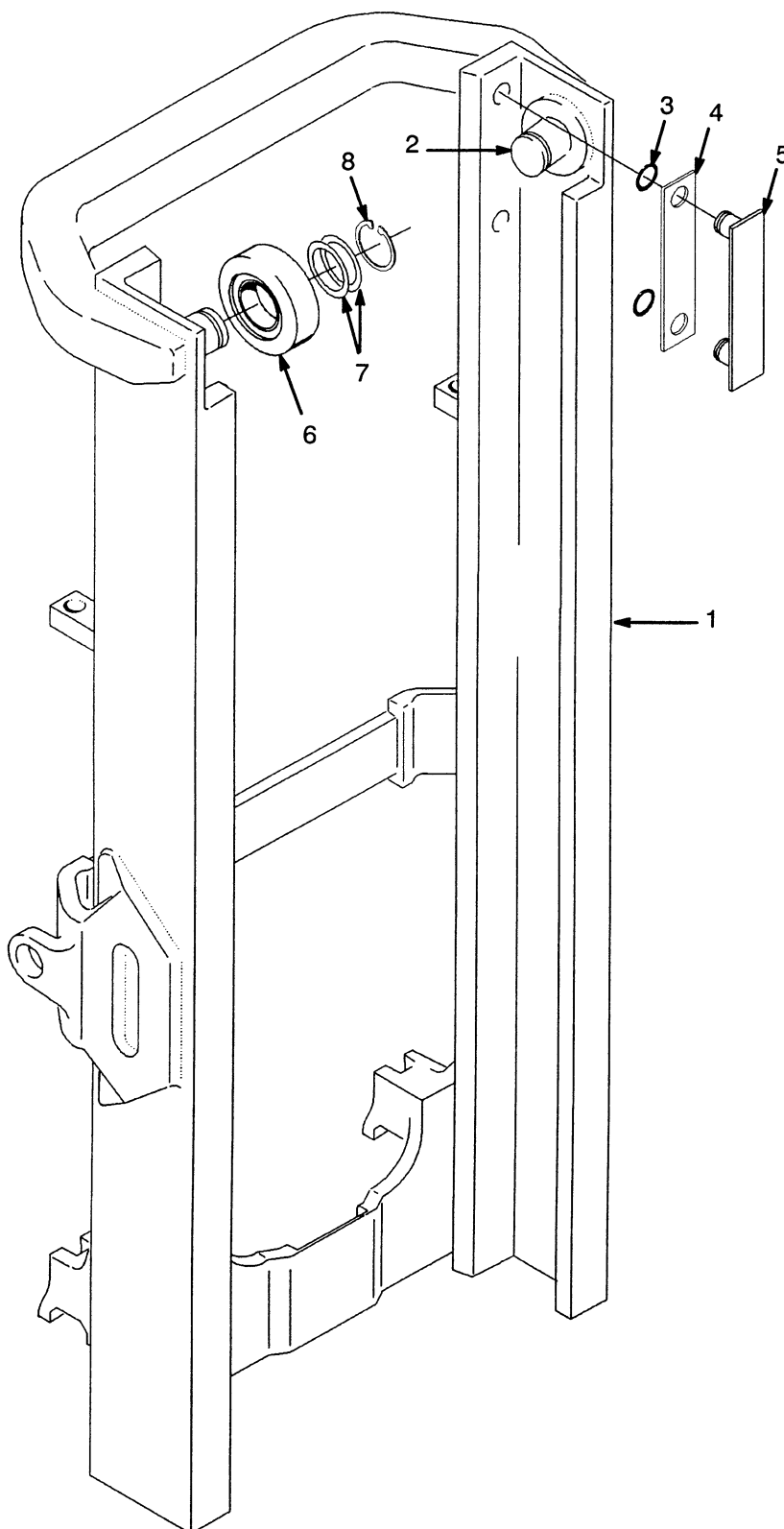
[illegible]

---

## TWO STAGE FULL FREE-LIFT

CARRIAGE (Figure 222) TWO STAGE FULL FREE-LIFT FOUR ROLLER .....	Page 423
CARRIAGE (Figure 223) TWO STAGE FULL FREE-LIFT SIX ROLLER .....	Page 424
FORKS (Figure 228) TWO STAGE FULL FREE-LIFT .....	Page 432
FREE LIFT (Figure 217) TWO STAGE FULL FREE-LIFT .....	Page 410
FREE LIFT TWO STAGE FULL FREE-LIFT (Figure 217 Continued) .....	Page 412
FREE-LIFT CYLINDER (Figure 220) TWO STAGE FULL FREE-LIFT .....	Page 416
HEADER HOSE (Figure 227) TWO STAGE FULL FREE-LIFT .....	Page 428
INNER MAST (Figure 215) TWO STAGE FULL FREE-LIFT .....	Page 406
LOAD BACKREST EXTENSION (Figure 224) TWO STAGE FULL FREE-LIFT .....	Page 425
MAIN CYLINDER (Figure 218) TWO STAGE FULL FREE-LIFT LEFT HAND .....	Page 414
MAIN CYLINDER (Figure 219) TWO STAGE FULL FREE-LIFT RIGHT HAND .....	Page 415
MAIN LIFT (Figure 216) TWO STAGE FULL FREE-LIFT .....	Page 408
MAST INSTALLATION (Figure 225) TWO STAGE FULL FREE-LIFT .....	Page 426
MAST INSTALLATION (Figure 226) TWO STAGE FULL FREE-LIFT .....	Page 427
OUTER MAST (Figure 214) TWO STAGE FULL FREE-LIFT .....	Page 404

## OUTER MAST (Figure 214) TWO STAGE FULL FREE-LIFT



**OUTER MAST  
TWO STAGE FULL FREE-LIFT**

**H45-55XM**

Ref No	Name Of Part 1 2 3 4	Lift Height To Bottom Of Forks		
		117.4 in	129.2 in	148.9 in
	<b>Mast Group No.</b>	<b>B509 2982</b>	<b>B509 3282</b>	<b>B509 3782</b>
1	Outer Mast	1341005	1341008	1341013

**H60-65XM**

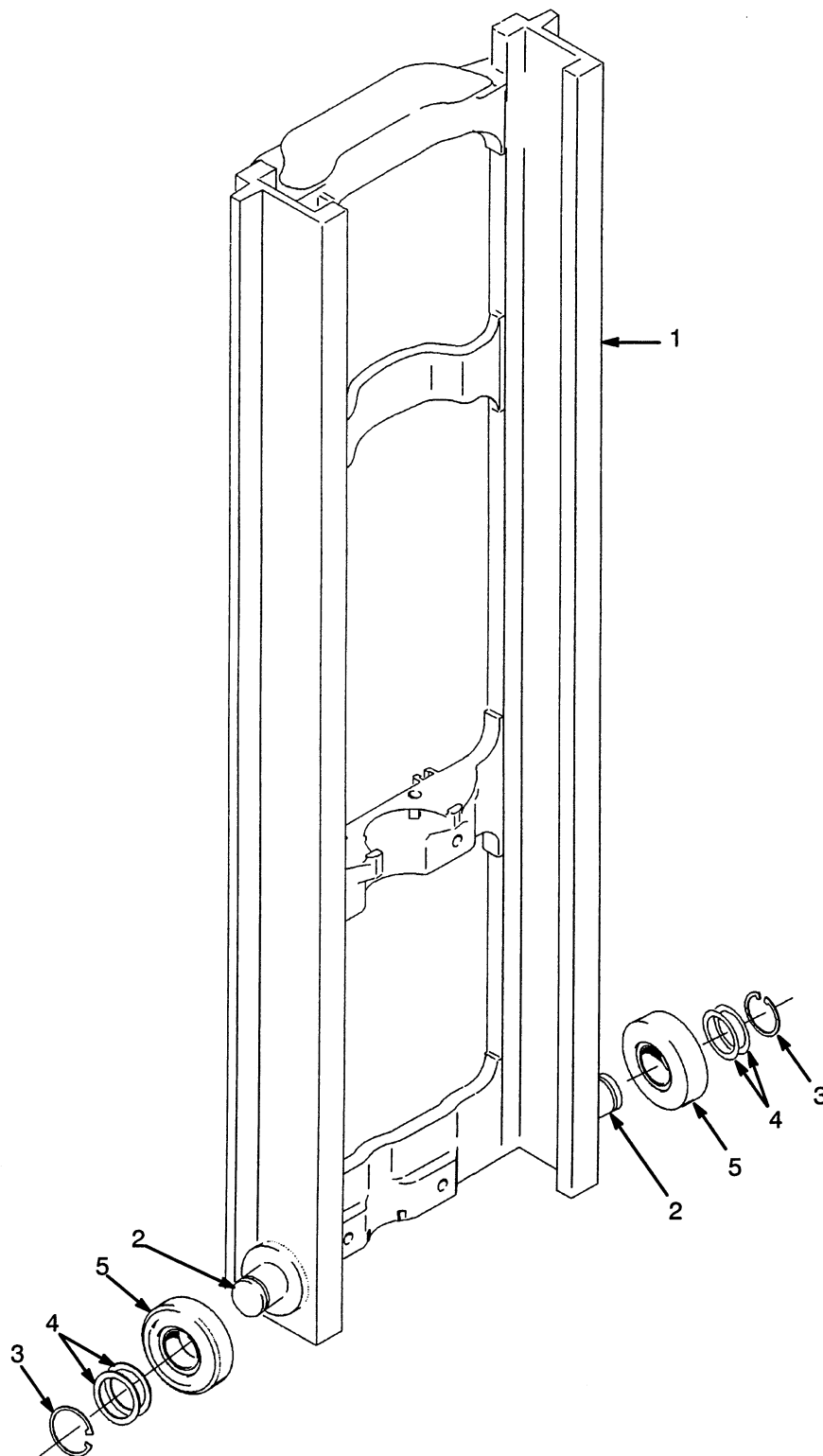
Ref No	Name Of Part 1 2 3 4	Lift Height To Bottom Of Forks		
		112.6 in	124.4 in	144.1 in
	<b>Mast Group No.</b>	<b>B564 2860</b>	<b>B564 3160</b>	<b>B564 3660</b>
1	Outer Mast	1341005	1341008	1341013

REF	PART NO.	NAME OF PART	QTY
a	....	Mast .....	1
1 a	....	Outer Mast .....	1
2	1345216	Stub Shaft .....	2
3	104506	O-Ring .....	4
4	131716	Shim (0.020 in) .....	4
5	215211	Bearing Strip .....	2
6	1395168	Load Roller ("A" Standard) .....	2

REF	PART NO.	NAME OF PART	QTY
6	1333396	Load Roller ("B" 0.76 mm) .....	2
6	1333397	Load Roller ("C" 1.52 mm) .....	2
7	129387	Shim (0.020 in) .....	AR
8	58901	Snap Ring .....	2

a ☞ Table Above

## INNER MAST (Figure 215) TWO STAGE FULL FREE-LIFT



**INNER MAST**  
**TWO STAGE FULL FREE-LIFT**

**H45-55XM**

Ref No	Name Of Part 1 2 3 4	Lift Height To Bottom Of Forks		
		117.4 in	129.2 in	148.9 in
	<b>Mast Group No.</b>	<b>B509 2982</b>	<b>B509 3282</b>	<b>B509 3782</b>
1	Inner Mast	1342474	1342477	1342482

**H60-65XM**

Ref No	Name Of Part 1 2 3 4	Lift Height To Bottom Of Forks		
		112.6 in	124.4 in	144.1 in
	<b>Mast Group No.</b>	<b>B564 2860</b>	<b>B564 3160</b>	<b>B564 3660</b>
1	Inner Mast	1342474	1342477	1342482

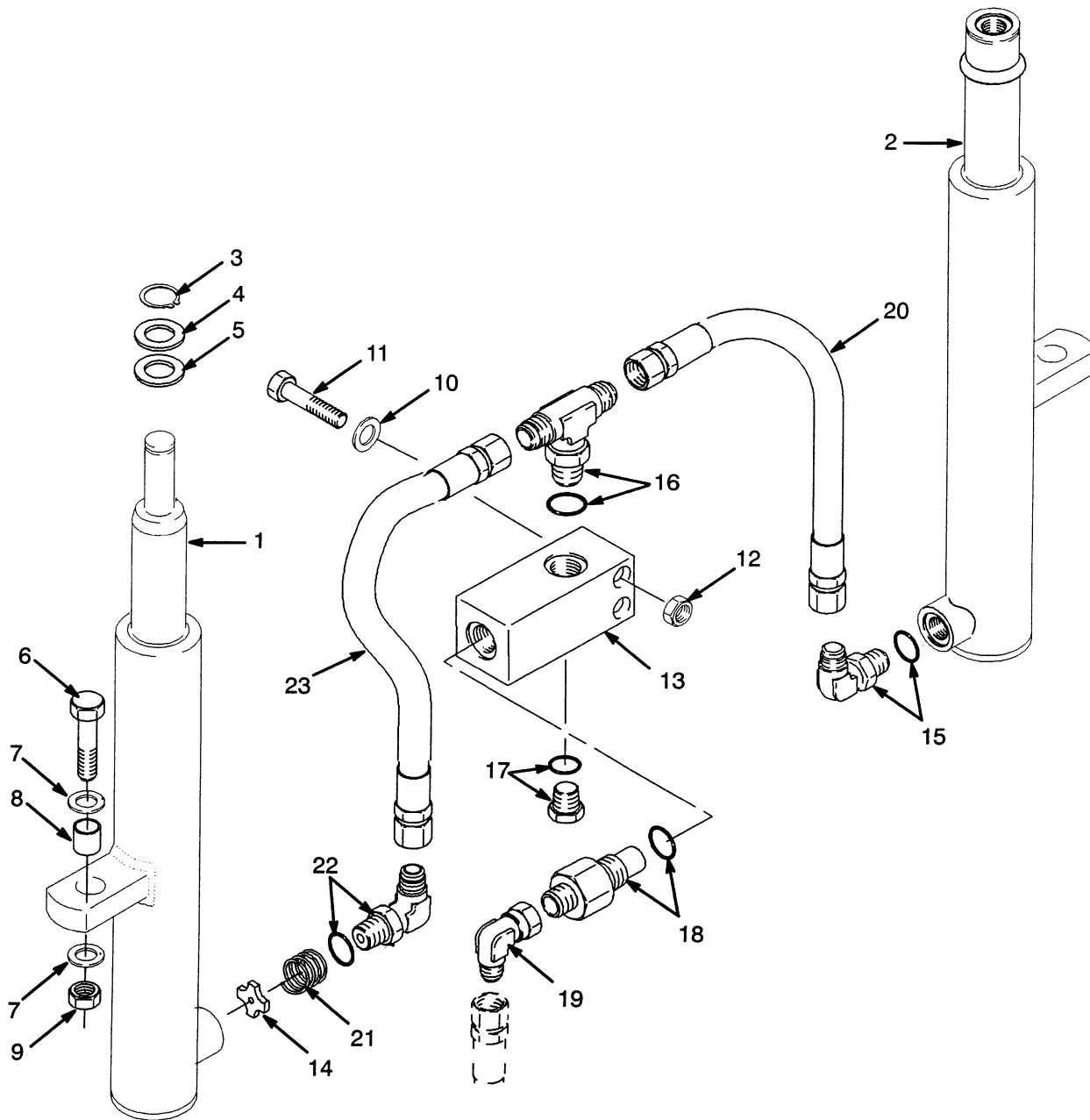
REF	PART NO.	NAME OF PART	QTY
a	.....	Mast .....	1
1 a	.....	Inner Mast .....	1
2	1345216	Stub Shaft .....	2
3	58901	Snap Ring .....	2
4	129387	Shim .....	AR

REF	PART NO.	NAME OF PART	QTY
5	1395168	Load Roller ("A" Standard) .....	2
5	1333396	Load Roller ("B" 0.76 mm) .....	2
5	1333397	Load Roller ("C" 1.52 mm) .....	2

a ☞ Table Above



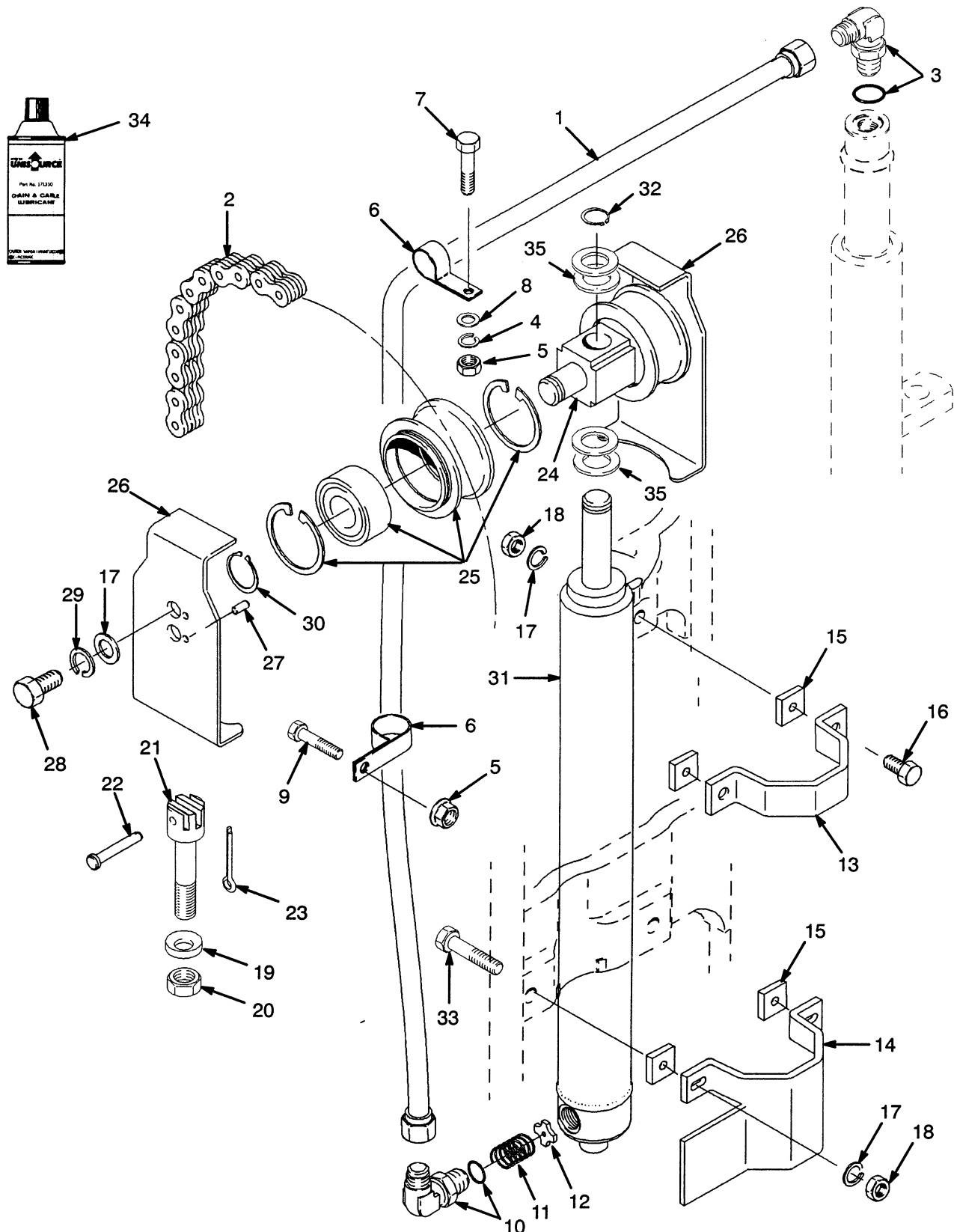
## MAIN LIFT (Figure 216) TWO STAGE FULL FREE-LIFT



**MAIN LIFT**  
**TWO STAGE FULL FREE-LIFT**

REF	PART NO.	NAME OF PART	QTY	REF	PART NO.	NAME OF PART	QTY
1	.....	Cylinder, RH .....	1	15	16560	Fitting .....	1
		☞ Figure 219		15	16485	O-Ring .....	1
2	.....	Cylinder, LH .....	1	16	16578	Fitting .....	1
		☞ Figure 218		16	16485	O-Ring .....	1
3	131358	Snap Ring .....	1	17 <b>a</b>	14603	Fitting .....	1
4	1333382	Washer .....	1	17 <b>a</b>	16486	O-Ring .....	1
5	1354915	Washer .....	AR	18 <b>b</b>	2309766	Lowering Control Valve .....	1
5	1354916	Washer .....	AR	18 <b>c</b>	316306	Lowering Control Valve .....	1
5	1354917	Washer .....	AR	18	16982	O-Ring .....	1
6	292532	Capscrew .....	2	19	16882	Fitting .....	1
7	296422	Washer .....	4	20	1345403	Hose .....	1
8	323090	Spacer .....	2	21	337179	Spring .....	1
9	300937	Nut .....	2	22	189595	Fitting .....	1
10	320157	Lockwasher .....	2	22	16485	O-Ring .....	1
11	214364	Capscrew .....	2	23	1462551	Hose .....	1
12	313828	Nut .....	2				
13 <b>a</b>	1333392	Valve Housing .....	1	<b>a</b>	Optional		
13	1379687	Valve Housing .....	1	<b>b</b>	H45-55XM		
14	357749	Washer .....	1	<b>c</b>	H60-65XM		

## FREE LIFT (Figure 217) TWO STAGE FULL FREE-LIFT



**FREE LIFT  
TWO STAGE FULL FREE-LIFT**

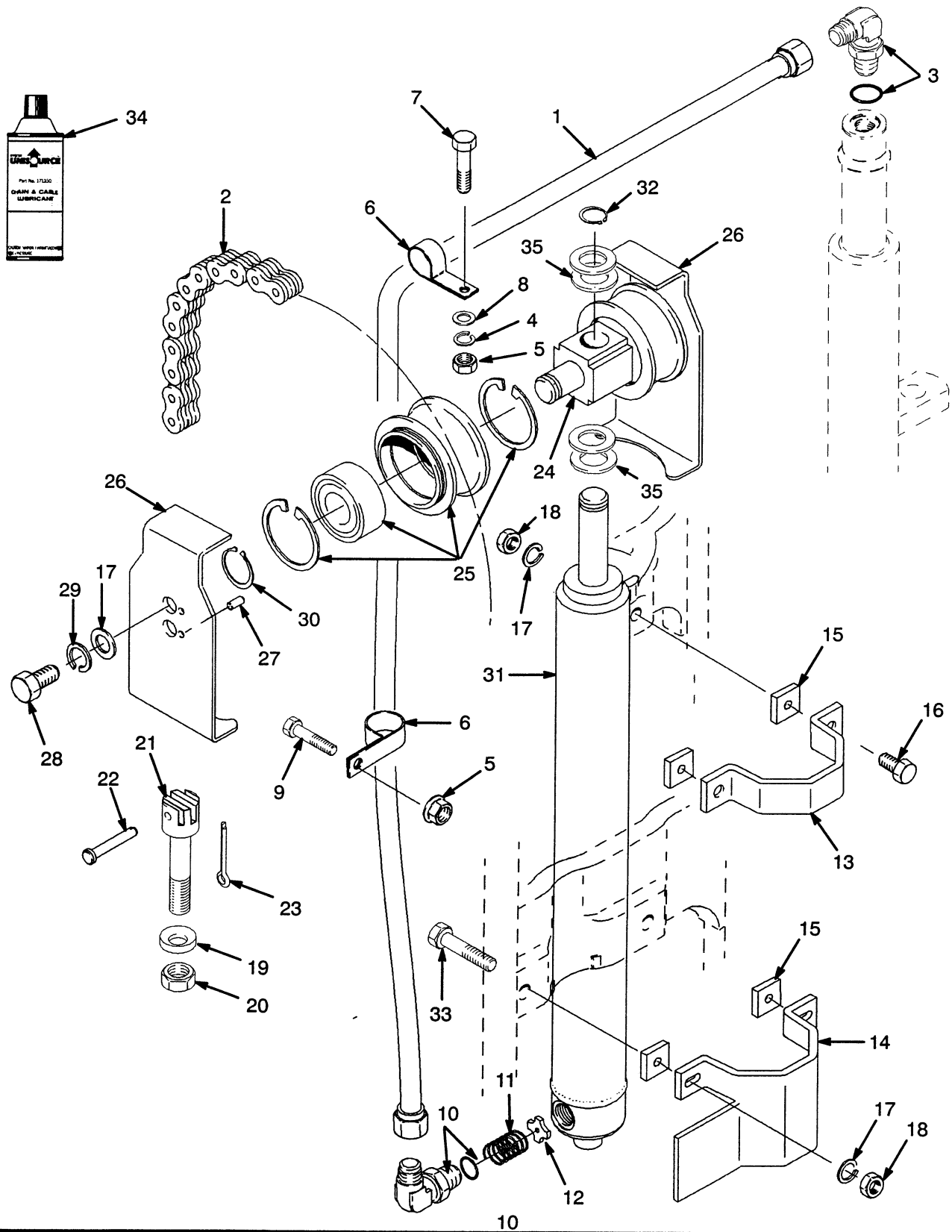
**H45-55XM**

Ref No	Name Of Part 1 2 3 4	Lift Height To Bottom Of Forks		
		117.4 in	129.2 in	148.9 in
	<b>Mast Group No.</b>	<b>B509 2982</b>	<b>B509 3282</b>	<b>B509 3782</b>
1	Tube	1345311	1345314	1345319
2	Chain	231082 <sup>a</sup> 197345 <sup>b</sup>	161059 <sup>a</sup> 180177 <sup>b</sup>	180217 <sup>a</sup> 182343 <sup>b</sup>

REF	PART NO.	NAME OF PART	QTY	REF	PART NO.	NAME OF PART	QTY
c	.....	Mast .....	1	25 g	.....	Chain Sheave .....	2
1 c	.....	Tube .....	1	25	1354911	Sheave .....	1
2 c	.....	Chain .....	2	25	37752	Snap Ring .....	2
3	1380036	Fitting .....	1	25	231020	Bearing .....	1
3	16485	O-Ring .....	1	25 h	1379682	Chain Sheave .....	2
4	292682	Lockwasher .....	1	25	1378692	Sheave .....	1
5	316826	Nut .....	2	25	37752	Snap Ring .....	1
6	178119	Clamp .....	2	25	1378699	Bearing .....	1
7	296028	Capscrew .....	1	26	1395285	Chain Guard .....	2
8	320159	Washer .....	1	27	302461	Pin .....	2
9	136985	Capscrew .....	1	28	292527	Capscrew .....	2
10	1354956	Fitting .....	1	29	292683	Lockwasher .....	2
10	16485	O-Ring .....	1	30	304526	Snap Ring .....	3
11	154355	Spring .....	1	31	.....	Free-Lift Cylinder .....	1
12	356505	Washer .....	1			Figure 220	
13	1465504	Clamp .....	1	32	131358	Snap Ring .....	1
14	1354967	Bracket .....	1	33	287837	Capscrew .....	2
15 d	1354902	Spacer .....	4	34	171350	Chain Lubricant .....	AR
16	292529	Capscrew .....	2	35 b	1362433	Spacer .....	4
17	320161	Washer .....	6				
18	300937	Nut .....	4	a	Last Used On Mast S/N B509B-4069		
19	297649	Base Ring .....	2	b	First Used On Mast S/N B509B-4070, B509V-1501		
20	161003	Nut .....	2	c	Table Above		
21 e	320313	Chain Anchor .....	2	d	H60-65XM		
21 f	1369357	Chain Anchor .....	2	e	Last Used On Mast S/N B509B-1959		
22	323161	Pin .....	2	f	First Used On Mast S/N B509B-1960		
23	15200	Cotter Pin .....	2	g	Last Used On Mast S/N B509V-1666		
24 g	1337905	Crosshead .....	1	h	First Used On Mast S/N B509V-1667		
24 h	1378690	Crosshead .....	1				

**CONTINUED ON NEXT PAGE**

## FREE LIFT TWO STAGE FULL FREE-LIFT (Figure 217 Continued)



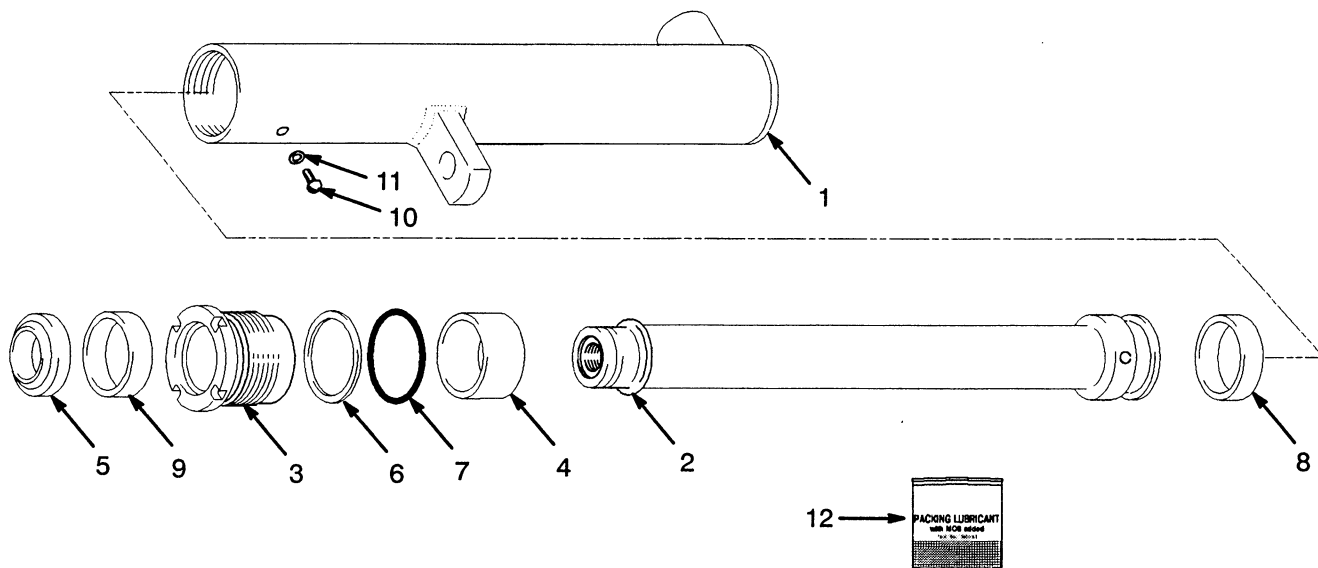
**FREE LIFT**  
**TWO STAGE FULL FREE-LIFT**  
**(Figure 217 Continued)**

**H60-65XM**

Ref No	Name Of Part 1 2 3 4	Lift Height To Bottom Of Forks		
		112.6 in	124.4 in	144.1 in
	<b>Mast Group No.</b>	<b>B564 2860</b>	<b>B564 3160</b>	<b>B564 3660</b>
1	Tube	1345311	1345314	1345319
2	Chain	1342373 <sup>a</sup> 1342374 <sup>b</sup>	1342376 <sup>a</sup> 1342377 <sup>b</sup>	1342118 <sup>a</sup> 1342380 <sup>b</sup>

REF	PART NO.	NAME OF PART	QTY	REF	PART NO.	NAME OF PART	QTY
c	.....	Mast .....	1	24 g	1378690	Crosshead .....	1
1 c	.....	Tube .....	1	25 f	.....	Chain Sheave .....	2
2 c	.....	Chain .....	2	25	1345201	Sheave .....	1
3	1380036	Fitting .....	1	25	37752	Snap Ring .....	2
3	16485	O-Ring .....	1	25	231020	Bearing .....	1
4	292682	Lockwasher .....	1	25 g	1379683	Chain Sheave .....	2
5	316826	Nut .....	2	25	1378693	Sheave .....	1
6	178119	Clamp .....	2	25	37752	Snap Ring .....	1
7	296028	Capscrew .....	1	25	1378699	Bearing .....	1
8	320159	Washer .....	1	26	1360544	Chain Guard .....	2
9	136985	Capscrew .....	1	27	302461	Pin .....	2
10	1354956	Fitting .....	1	28	292527	Capscrew .....	2
10	16485	O-Ring .....	1	29	292683	Lockwasher .....	2
11	154355	Spring .....	1	30	304526	Snap Ring .....	3
12	356505	Washer .....	1	31	.....	Free-Lift Cylinder .....	1
13	1465504	Clamp .....	1			Figure 220	
14	1354967	Bracket .....	1	32	131358	Snap Ring .....	1
15	1354902	Spacer .....	4	33	287837	Capscrew .....	2
16	292530	Capscrew .....	2	34	171350	Chain Lubricant .....	AR
17	320161	Washer .....	6	35 b	1362433	Spacer .....	4
18	300937	Nut .....	4	a	Last Used On Mast S/N B564B-1854		
19	297649	Base Ring .....	2	b	First Used On Mast S/N B564B-1855, B564V-1501		
20	161003	Nut .....	2	c	Table Above		
21 d	1333328	Chain Anchor .....	2	d	Last Used On Mast S/N B564B-1529		
21 e	1369356	Chain Anchor .....	2	e	First Used On Mast S/N B564B-1530		
22	323161	Pin .....	2	f	Last Used On Mast S/N B564V-1650		
23	15200	Cotter Pin .....	2	g	First Used On Mast S/N B564V-1651		
24 f	1337905	Crosshead .....	1				

## MAIN CYLINDER (Figure 218) TWO STAGE FULL FREE-LIFT LEFT HAND



### H45-55XM

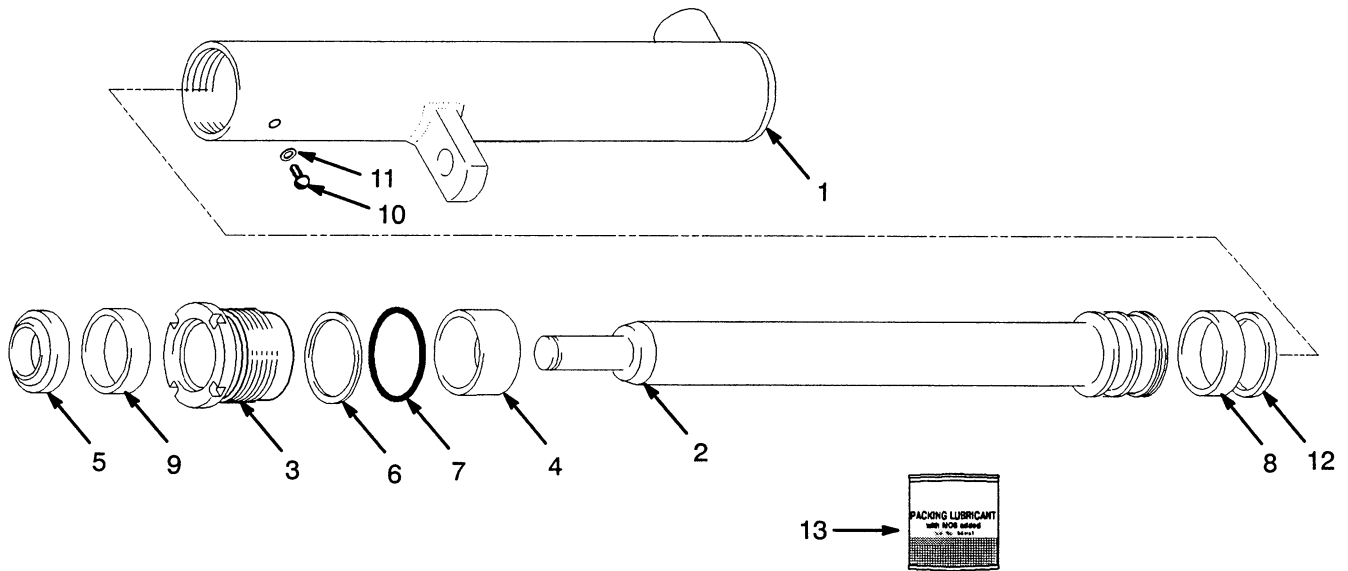
Ref No	Name Of Part	Lift Height To Bottom Of Forks		
		117.4 in	129.2 in	148.9 in
	<b>Mast Group No.</b>	<b>B509 2982</b>	<b>B509 3282</b>	<b>B509 3782</b>
	Group # Cylinder (LH)	8600706 1342222	8600709 1342225	8600714 1342230
1	Shell	1355910	1355928	1355958
2	Rod	1355911	1355929	1355959

### H60-65XM

		112.6 in	124.4 in	144.1 in
	<b>Mast Group No.</b>	<b>B564 2860</b>	<b>B564 3160</b>	<b>B564 3660</b>
	Group # Cylinder (LH)	8600906 1342280	8600909 1342283	8600914 1342288
1	Shell	1355910	1355928	1355958
2	Rod	1355911	1355929	1355959

REF	PART NO.	NAME OF PART	QTY	REF	PART NO.	NAME OF PART	QTY
a	.....	Mast .....	1	8 c	1356747	Wear Ring .....	1
a	.....	Main Cylinder (LH) .....	1	9 c	1356749	Rod Seal .....	1
1 a	.....	Shell .....	1	10	295649	Screw .....	1
2 a	.....	Rod .....	1	11 c	190887	Seal .....	1
3	1355284	Retainer .....	1	12	186061	Packing Lubricant .....	AR
4 b	1356058	Spacer .....	1				
5 c	1319668	Rod Wiper .....	1	a		Table Above	
6 c	147972	Back-Up Ring .....	1	b		Mast S/N B564 Only	
7 c	59229	O-Ring .....	1	c		Included In Seal Kit 1358963	

**MAIN CYLINDER (Figure 219)  
TWO STAGE FULL FREE-LIFT  
RIGHT HAND**



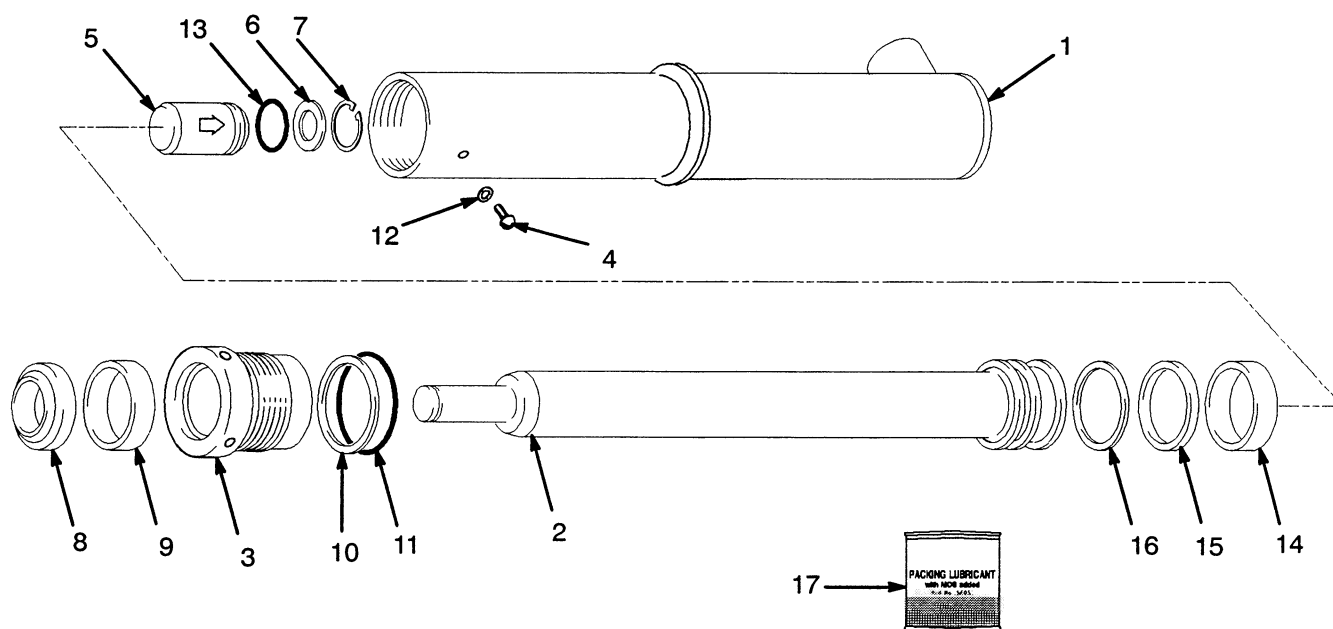
**H45-55XM**

Ref No	Name Of Part	Lift Height To Bottom Of Forks		
		117.4 in	129.2 in	148.9 in
	<b>Mast Group No.</b>	<b>B509 2982</b>	<b>B509 3282</b>	<b>B509 3782</b>
	Group # Cylinder (RH)	8600806 1356759	8600809 1356762	8600814 1356767
1	Shell	1356783	1356786	1356791
2	Rod	1358937	1358940	1358945
<b>H60-65XM</b>				
		112.6 in	124.4 in	144.1 in
	<b>Mast Group No.</b>	<b>B564 2860</b>	<b>B564 3160</b>	<b>B564 3660</b>
	Group # Cylinder (RH)	8601006 1342251	8601009 1361276	8601014 1361281
1	Shell	1356783	1356786	1356791
2	Rod	1358937	1358940	1358945

REF	PART NO.	NAME OF PART	QTY	REF	PART NO.	NAME OF PART	QTY
a		Mast	1	9 c	1356749	Rod Seal	1
a		Main Cylinder (RH)	1	10	295649	Screw	1
1 a		Shell	1	11 c	190887	Seal	1
2 a		Rod	1	12 c	1356748	Piston Ring	1
3	1355284	Retainer	1	13	186061	Packing Lubricant	AR
4 b	1356058	Spacer	1				
5 c	1319668	Rod Wiper	1	a		Table Above	
6 c	147972	Back-Up Ring	1	b		Mast S/N B564 Only	
7 c	59229	O-Ring	1	c		Included In Seal Kit 1360142	
8 c	1356747	Wear Ring	1				



## FREE-LIFT CYLINDER (Figure 220) TWO STAGE FULL FREE-LIFT



**FREE-LIFT CYLINDER  
TWO STAGE FULL FREE-LIFT  
H45-55XM**

**Last Used On Mast S/N B509B-4069**

Ref No	Name Of Part 1 2 3 4	Lift Height To Bottom Of Forks		
		117.4 in	129.2 in	148.9 in
	<b>Mast Group No.</b>	<b>B509 2982</b>	<b>B509 3282</b>	<b>B509 3782</b>
	Group # Cylinder	8601106 1342045	8601109 1342048	8601114 1342053
1	Shell	1356556	1356565	1356580
2	Rod	1356557	1356566	1356581

**Used On Mast S/N B509B-4070, B509V-1501 Thru S/N B509V-3231**

Ref No	Name Of Part 1 2 3 4	Lift Height To Bottom Of Forks		
		117.4 in	129.2 in	148.9 in
	<b>Mast Group No.</b>	<b>B509 2982</b>	<b>B509 3282</b>	<b>B509 3782</b>
	Group # Cylinder	8603406 2309480	8603409 2303951	8603414 2303455
1	Shell	2303871	2311434	2307580
2	Rod	2306774	2311141	2304977

**First Used On Mast S/N B509V-3232**

Ref No	Name Of Part 1 2 3 4	Lift Height To Bottom Of Forks		
		117.4 in	129.2 in	148.9 in
	<b>Mast Group No.</b>	<b>B509 2982</b>	<b>B509 3282</b>	<b>B509 3782</b>
	Group # Cylinder	8602406 1366733	8602409 1366736	8602414 1366741
1	Shell	2303871	2311434	2307580
2	Rod	1356560	1366569	1356584

**CONTINUED ON NEXT PAGE**

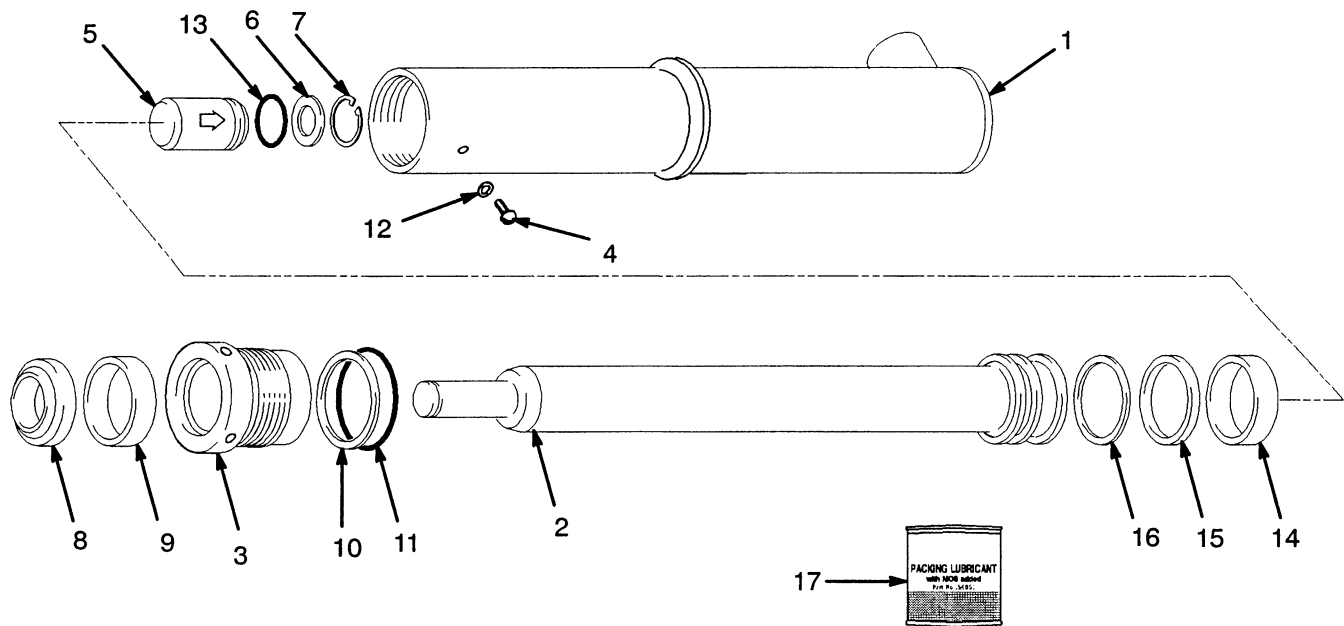
## FREE-LIFT CYLINDER TWO STAGE FULL FREE-LIFT H45-55XM

**KEY:****A: H45-55XM****B: H60-65XM**

REF	PART NO.	NAME OF PART	QTY		REF	PART NO.	NAME OF PART	QTY	
			A	B				A	B
	c	Mast .....	1	1	12	de	190887 Seal .....	1	1
	c	Free-Lift Cylinder .....	1	1	13	de	39348 O-Ring .....	1	1
1	c	Shell .....	1	1	14	d	1358972 Wear Ring .....	1	..
2	c	Rod .....	1	1	14	e	636941 Wear Ring .....	..	1
3	1356292	Retainer .....	1	..	15	d	2013088 Seal .....	1	..
3	1356661	Retainer .....	..	1	15	e	309062 Seal .....	..	1
4	a	295649 Screw .....	1	1	16	d	2013089 Back-Up Ring .....	1	..
4	b	1361302 Screw .....	1	1	16	e	637565 Back-Up Ring .....	..	1
5	257913	Check Valve .....	1	1	17		186061 Packing Lubricant .....	ARAR	
6	297531	Washer .....	1	1		a	Last Used On Mast S/N B509B-4069 & B564B-1854		
7	187388	Snap Ring .....	1	1		b	First Used On Mast S/N B509B-4070, B509V-1501, B564V-1501		
8	de	2013099 Rod Wiper .....	1	1		c	☞ Table Above		
9	de	1358970 Rod Seal .....	1	1		d	Included In Seal Kit 1358969		
10	d	147973 Back-Up Ring .....	1	..		e	Included In Seal Kit 1356662		
10	e	164840 Back-Up Ring .....	..	1					
11	d	90263 O-Ring .....	1	..					
11	e	15880 O-Ring .....	..	1					

## This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

## FREE-LIFT CYLINDER (Figure 221) TWO STAGE FULL FREE-LIFT



**FREE-LIFT CYLINDER  
TWO STAGE FULL FREE-LIFT  
H60-65XM**

**Last Used On Mast S/N B564B-1854**

Ref No	Name Of Part 1 2 3 4	Lift Height To Bottom Of Forks		
		112.6 in	124.4 in	144.1 in
	<b>Mast Group No.</b>	<b>B564 2860</b>	<b>B564 3160</b>	<b>B564 3660</b>
	Group # Cylinder	8601206 1341675	8601209 1341678	8601214 1341683
1	Shell	1356675	1356696	1356064
2	Rod	1356676	1356697	1356065

**Used On Mast S/N B564B-1855, B564V-1501 Thru S/N B564V-2525**

Ref No	Name Of Part 1 2 3 4	Lift Height To Bottom Of Forks		
		112.6 in	124.4 in	144.1 in
	<b>Mast Group No.</b>	<b>B564 2860</b>	<b>B564 3160</b>	<b>B564 3660</b>
	Group # Cylinder	8603506 2305335	8603509 2304960	8603514 2307561
1	Shell	2304592	2304575	2304802
2	Rod	2309221	2310912	2306235

**First Used On Mast S/N B564V-2526**

Ref No	Name Of Part 1 2 3 4	Lift Height To Bottom Of Forks		
		112.6 in	124.4 in	144.1 in
	<b>Mast Group No.</b>	<b>B564 2860</b>	<b>B564 3160</b>	<b>B564 3660</b>
	Group # Cylinder	8602506 1369548	8602509 1371601	8602514 1371606
1	Shell	2304592	2304575	2304802
2	Rod	1356679	1356688	1356068

**CONTINUED ON NEXT PAGE**

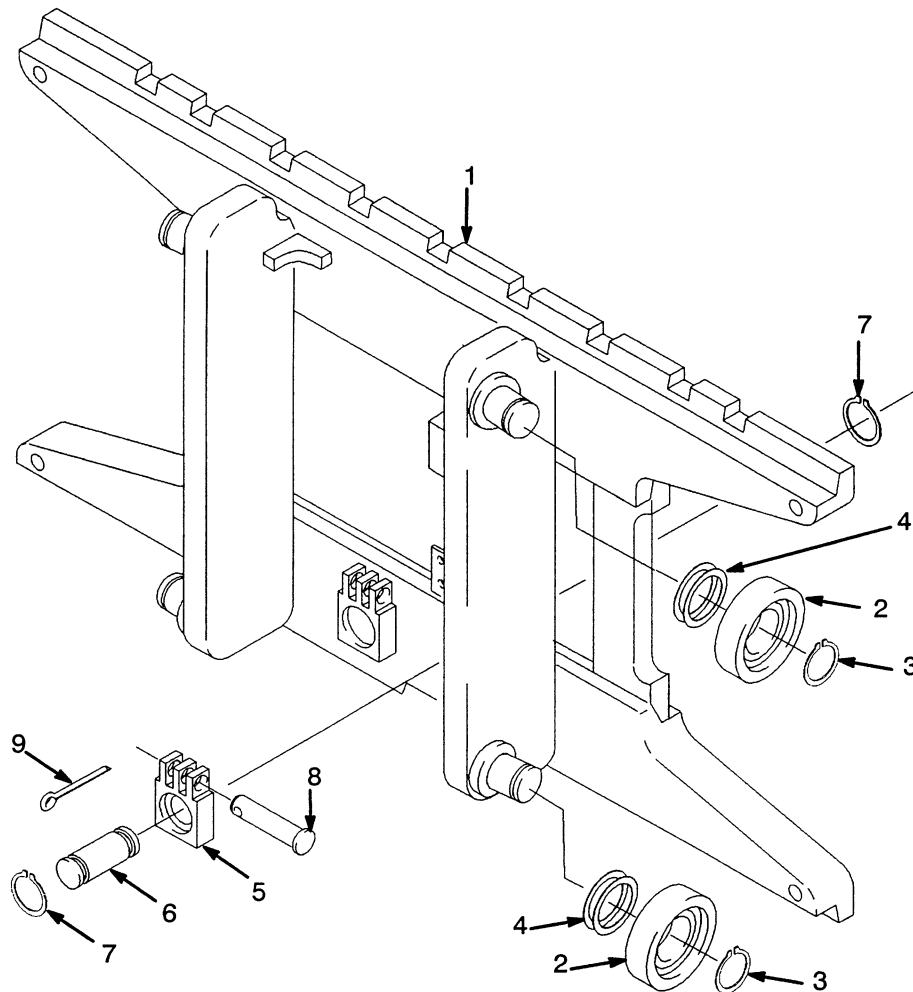
## FREE-LIFT CYLINDER TWO STAGE FULL FREE-LIFT H60-65XM

### KEY:

A: H45-55XM  
B: H60-65XM

REF	PART NO.	NAME OF PART	QTY		REF	PART NO.	NAME OF PART	QTY	
			A	B				A	B
	c	Mast	1	1	12	de	190887 Seal	1	1
	c	Free-Lift Cylinder	1	1	13	de	39348 O-Ring	1	1
1	c	Shell	1	1	14	d	1358972 Wear Ring	1	..
2	c	Rod	1	1	14	e	636941 Wear Ring	..	1
3	1356292	Retainer	1	..	15	d	2013088 Seal	1	..
3	1356661	Retainer	..	1	15	e	309062 Seal	..	1
4	a	295649 Screw	1	1	16	d	2013089 Back-Up Ring	1	..
4	b	1361302 Screw	1	1	16	e	637565 Back-Up Ring	..	1
5	257913	Check Valve	1	1	17		186061 Packing Lubricant	ARAR	
6	297531	Washer	1	1		a	Last Used On Mast S/N B509B-4069 & B564B-1854		
7	187388	Snap Ring	1	1		b	First Used On Mast S/N B509B-4070, B509V-1501, B564B-1855 & B564V-1501		
8	de	2013099 Rod Wiper	1	1		c	☞ Table Above		
9	de	1358970 Rod Seal	1	1		d	Included In Seal Kit 1358969		
10	d	147973 Back-Up Ring	1	..		e	Included In Seal Kit 1356662		
10	e	164840 Back-Up Ring	..	1					
11	d	90263 O-Ring	1	..					
11	e	15880 O-Ring	..	1					

**CARRIAGE (Figure 222)**  
**TWO STAGE FULL FREE-LIFT**  
**FOUR ROLLER**



	H45-55XM	H60-65XM
<b>Group No.</b>	8500005	8500006
Carriage	1343839	1343840

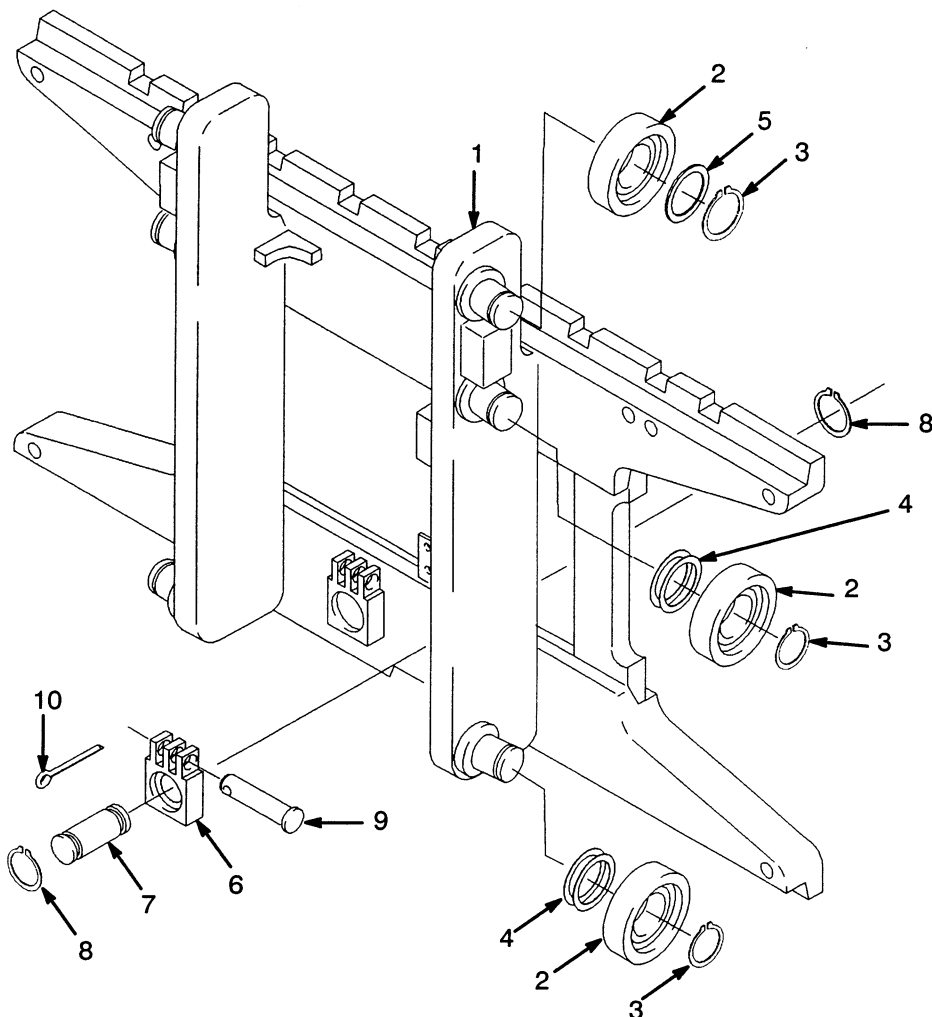
**KEY:**

**A: H45-55XM**  
**B: H60-65XM**

REF	PART NO.	NAME OF PART	QTY		REF	PART NO.	NAME OF PART	QTY	
			A	B				A	B
a	.....	Carriage Assembly .....	1	..	4	1345263	Shim .....	AR	AR
a	.....	Carriage Assembly .....	..	1	5	1369345	Chain Anchor .....	2	..
1	1345225	Carriage .....	1	..	5	1369344	Chain Anchor .....	..	2
1	1345226	Carriage .....	..	1	6	317735	Pin .....	2	2
1	1345264	Stubshaft .....	4	4	7	131358	Snap Ring .....	4	4
2	1345218	Load Roller .....	4	4	8	323161	Pin .....	2	2
2	1395172	Load Roller ("A" Standard) ..	4	4	9	15200	Cotter Pin .....	2	2
2	1345219	Load Roller ("B" 0.76 mm) ..	4	4					
2	1345220	Load Roller ("C" 1.52 mm) ..	4	4					
3	12891	Snap Ring .....	4	4	a	☞ Table Above			



## CARRIAGE (Figure 223) TWO STAGE FULL FREE-LIFT SIX ROLLER



	H45-55XM	H60-65XM
<b>Group No.</b>	8500011	8500012
Carriage	1343844	1343845

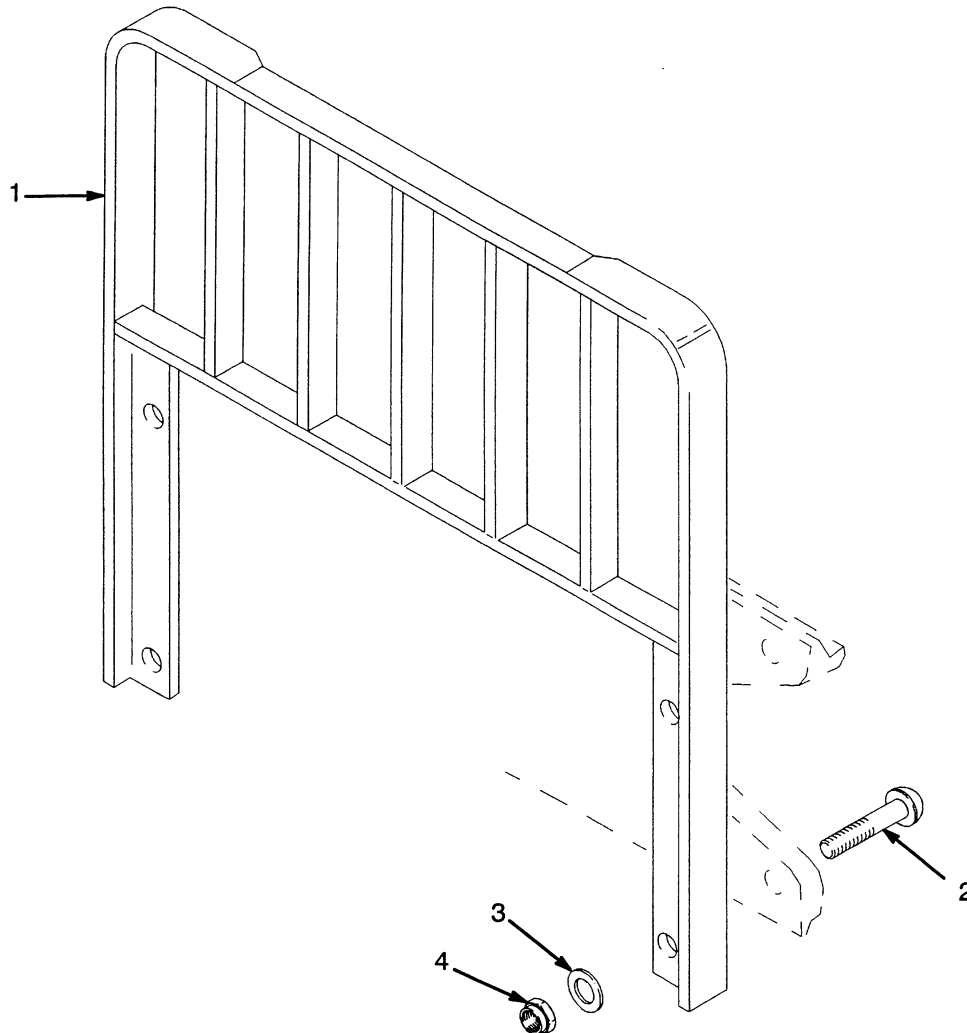
### KEY:

A: H45-55XM

B: H60-65XM

REF	PART NO.	NAME OF PART	QTY		REF	PART NO.	NAME OF PART	QTY	
			A	B				A	B
a	.....	Carriage Assembly .....	1	..	4	1345263	Shim .....	AR	AR
a	.....	Carriage Assembly .....	..	1	5	366116	Spacer .....	2	2
1	1345239	Carriage .....	1	..	6	1369345	Chain Anchor .....	2	..
1	1345240	Carriage .....	..	1	6	1369344	Chain Anchor .....	..	2
1	1345264	Stubshaft .....	6	6	7	317735	Pin .....	2	2
2	1345218	Load Roller .....	4	4	8	131358	Snap Ring .....	4	4
2	1395172	Load Roller ("A" Standard) ..	6	6	9	323161	Pin .....	2	2
2	1345219	Load Roller ("B" 0.76 mm) ..	6	6	10	15200	Cotter Pin .....	2	2
2	1345220	Load Roller ("C" 1.52 mm) ..	6	6					
3	12891	Snap Ring .....	6	6	a	Table Above			

**LOAD BACKREST EXTENSION (Figure 224)**  
**TWO STAGE FULL FREE-LIFT**



**KEY:**

**A: H45-55XM**  
**B: H60-65XM**

REF	PART NO.	NAME OF PART	QTY	
			A	B
1	1338642	Load Backrest Extension	1	..
1	1338645	Load Backrest Extension	..	1
1 <sup>a</sup>	1345267	Load Backrest Extension	..	1
2	1343990	Capscrew	4	..
2	1354923	Capscrew	..	4
3	221771	Washer	4	4

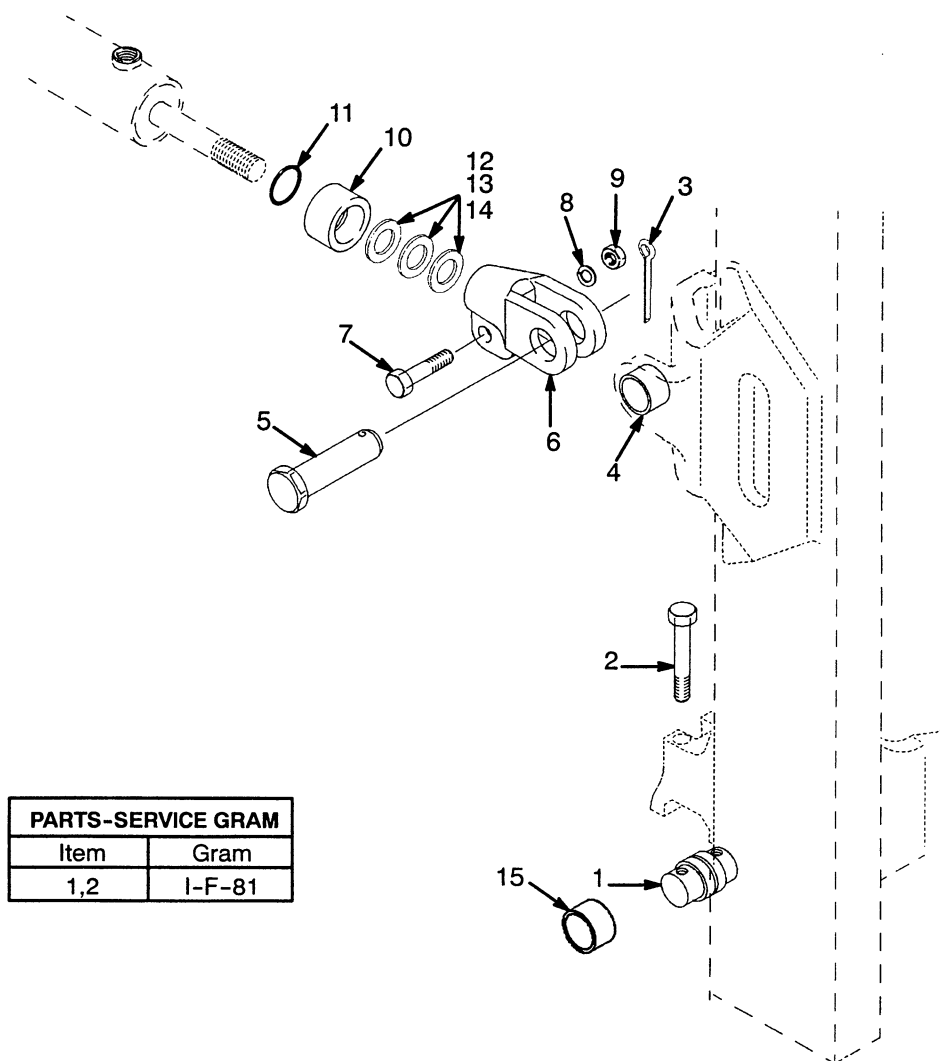
REF	PART NO.	NAME OF PART	QTY	
			A	B
3 <sup>b</sup>	296423	Washer	4	4
4	300937	Nut	4	4

<sup>a</sup> For Polished Forks W/Full Bottom Taper

<sup>b</sup> Optional

## MAST INSTALLATION (Figure 225)

### TWO STAGE FULL FREE-LIFT



PARTS-SERVICE GRAM	
Item	Gram
1,2	I-F-81

#### KEY:

A: 6° Forward Tilt/10° Back Tilt

B: 6° Forward Tilt/6° Back Tilt

C: 6° Forward Tilt/5° Back Tilt

REF	PART NO.	NAME OF PART	QTY		
			A	B	C
1 <sup>a</sup>	1333386	Pin	2	2	2
1 <sup>b</sup>	1376424	Pin	2	2	2
2 <sup>a</sup>	293659	Capscrew	4	4	4
2 <sup>b</sup>	1376423	Capscrew	4	4	4
3	15236	Cotter Pin	2	2	2
4	300982	Bushing	2	2	2
5	1345354	Pin	2	2	2
6	1307641	Rod End	2	2	2
7	293650	Capscrew	2	2	2
8	292683	Lockwasher	2	2	2
9	216877	Nut	2	2	2

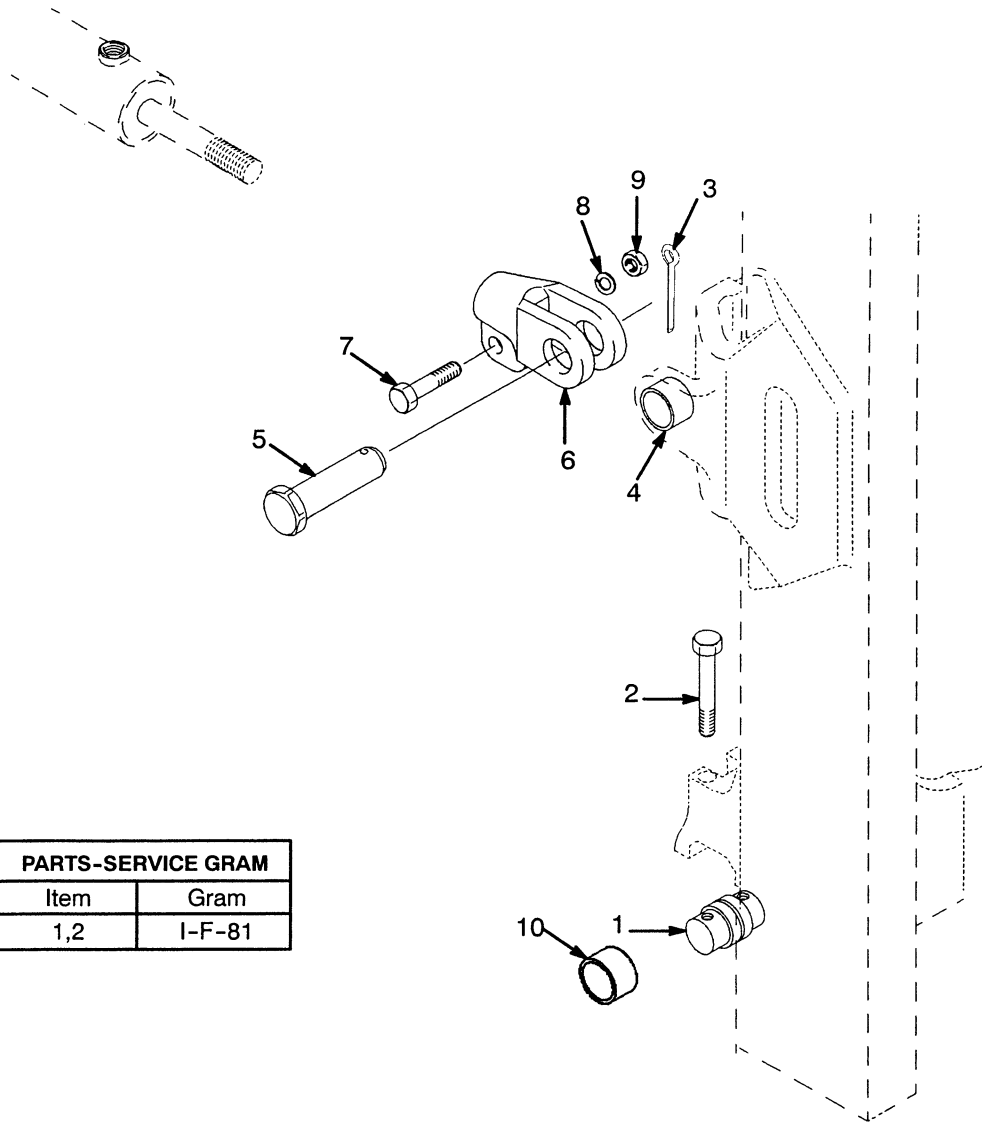
REF	PART NO.	NAME OF PART	QTY		
			A	B	C
10	1451788	Spacer	2	..	..
10	384101	Spacer	..	2	2
11	55434	O-Ring	2	2	2
12	134675	Shim	AR	AR	AR
13	1325119	Shim	AR	AR	AR
14	1361948	Shim	..	AR	AR
15	1333385	Bushing	2	2	2
15	1380115	Bushing (Optional)	2	2	2

<sup>a</sup> First Used On S/N D177B-19806

<sup>b</sup> Last Used On S/N D177B-19807

## MAST INSTALLATION (Figure 226)

### TWO STAGE FULL FREE-LIFT



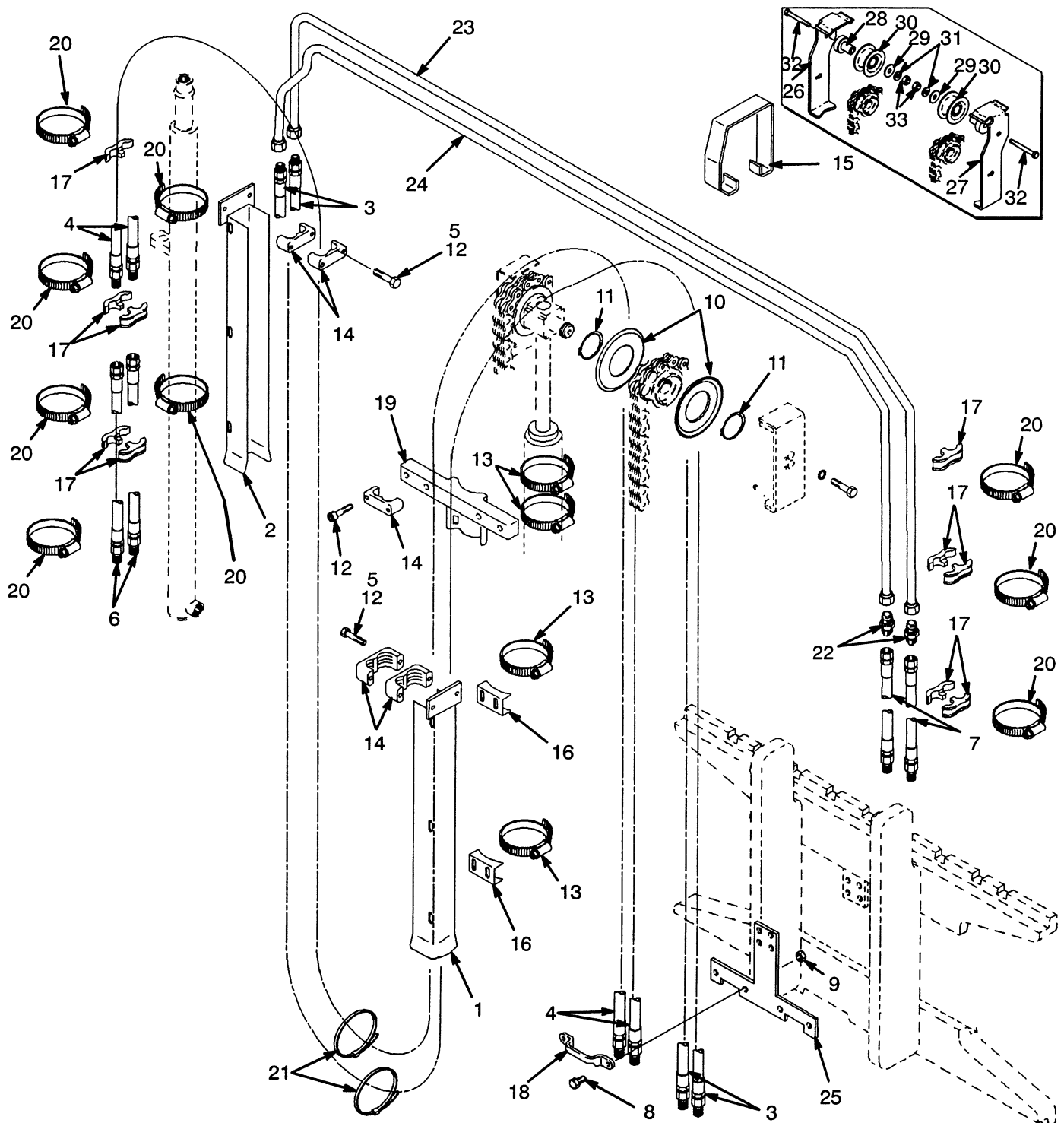
PARTS-SERVICE GRAM	
Item	Gram
1,2	I-F-81

**KEY:**

10° Forward Tilt/6° Back Tilt

REF	PART NO.	NAME OF PART	QTY	REF	PART NO.	NAME OF PART	QTY
1 <b>a</b>	1333386	Pin	2	7	293650	Capscrew	2
1 <b>b</b>	1376424	Pin	2	8	292683	Lockwasher	2
2 <b>a</b>	293659	Capscrew	4	9	216877	Nut	2
2 <b>b</b>	1376423	Capscrew	4	10	1333385	Bushing	2
3	15236	Cotter Pin	2	10	1380115	Bushing (Optional)	2
4	300982	Bushing	2				
5	1345354	Pin	2	<b>a</b>	First Used On S/N D177B-19806		
6	1356318	Rod End	2	<b>b</b>	Last Used On S/N D177B-19807		

## HEADER HOSE (Figure 227) TWO STAGE FULL FREE-LIFT



**HEADER HOSE  
TWO STAGE FULL FREE-LIFT**

**H45-55XM**

Ref No	Name Of Part 1 2 3 4	Lift Height To Bottom Of Forks		
		117.4 in	129.2 in	148.9 in
	<b>Mast Group No.</b>	<b>B509 2982</b>	<b>B509 3282</b>	<b>B509 3782</b>
1	Channel	1365500	1365502	1365505
2	Channel	1365514	1365517	1365523
3	Hose	<b>b</b> 1345568 <b>c</b> 1390425 1345571	<b>d</b> 1369632 <b>e</b> 1368400	<b>d</b> 1345573 <b>e</b> 1390417
4	Hose	<b>b</b> 1358351 <b>c</b> 1390416 <b>e</b> 1345575	<b>d</b> 1345574 <b>e</b> 1376120	<b>d</b> 1369613 <b>e</b> 1369640
23	Tube	1360331	1360334	1360339
24	Tube	1360361	1360364	1360369
25	Bracket	<b>b</b> 1369323	<b>b</b> 1369323	<b>b</b> 1369323
25	Bracket	<b>c</b> 1381771	<b>c</b> 1381771	<b>c</b> 1381771

**H60-65XM**

Ref No	Name Of Part 1 2 3 4	Lift Height To Bottom Of Forks		
		112.6 in	124.4 in	144.1 in
	<b>Mast Group No.</b>	<b>B564 2860</b>	<b>B564 3160</b>	<b>B564 3660</b>
1	Channel	1365500	1365502	1365504
2	Channel	1365514	1365517	1365523
3	Hose	<b>b</b> 1345568 <b>c</b> 1390425 1345571	<b>d</b> 1369632 1368400	<b>d</b> 1345573 1369640
4	Hose	<b>b</b> 1358351 <b>c</b> 1390416 1345575	<b>d</b> 1345574 <b>e</b> 1376120	<b>d</b> 1369613 <b>e</b> 1369640
23	Tube	1360331	1360334	1360339
24	Tube	1360361	1360364	1360369
25	Bracket	<b>b</b> 1369324	<b>b</b> 1369324	<b>b</b> 1369324
25	Bracket	<b>c</b> 1381772	<b>c</b> 1381772	<b>c</b> 1381772

**b** Last Used on S/N B509V-2643, B564V-2196  
**c** Used on S/N B509V-2644, B564V-2197 ⇒  
S/N B509V-3722, B564V-5761

**d** Last Used On S/N B509V-3722, B564V-5761  
**e** First Used On S/N B509V-3723, B564V-5762

## HEADER HOSE TWO STAGE FULL FREE-LIFT (Figure 227 Continued)

**KEY:**

**A:** Three Function

**B:** Four Function

REF	PART NO.	NAME OF PART	QTY	
			A	B
a		Mast .....	1	1
1 a		Channel .....	1	1
2 a		Channel .....	1	1
3 a		Hose .....	2	2
4 a		Hose .....	..	2
5	296001	Capscrew .....	..	4
6	1354904	Hose .....	..	2
7	1354922	Hose .....	2	2
8	136749	Capscrew .....	6	8
9	313828	Nut .....	6	8
10	1345199	Hose Guide .....	2	4
11	1345204	Snap Ring .....	2	4
12	293796	Capscrew .....	6	4
13	1360508	Clamp .....	4	4
14	1360386	Clamp .....	3	6
15	1365062	Clip .....	1	1
16	1345423	Clamp .....	2	2
17	1353530	Clamp .....	5	10
18	1369333	Clamp .....	1	2

REF	PART NO.	NAME OF PART	QTY	
			A	B
19	1354918	Bracket .....	1	1
20	1360507	Clamp .....	5	8
21	2004005	Strap Clamp .....	1	1
22	14692	Fitting .....	2	2
23 a		Tube .....	1	1
24 a		Tube .....	1	1
25 a		Bracket .....	1	1
26 b	1395291	Guard (RH) .....	1	1
27 b	1395292	Guard (LH) .....	..	1
28 b	1396406	Stubshaft .....	1	2
29 b	1396407	Spacer .....	1	2
30 b	1345194	Sheave .....	1	2
31 b	1345190	Washer .....	1	2
32 b	292533	Capscrew .....	1	2
33 b	300937	Nut .....	1	2

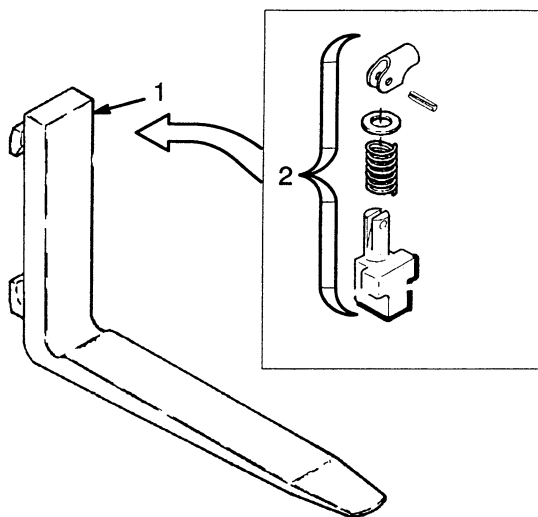
a  Table Above

b First Used On S/N B509V-3723, B564V-5762

## This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.



## FORKS (Figure 228) TWO STAGE FULL FREE-LIFT



### H45-55XM

Ref No	Name Of Part 1 2 3 4	Standard Taper		Full Bottom Taper	Qty
1	Fork	125 mm x 40 mm	100 mm x 40 mm	125 mm x 40 mm	
	762 mm (30 in)	1326660	384210		2
	914 mm (36 in)	1326661	384211	1338087	2
	1067 mm (42 in)	1326663	384213	1338088	2
	1219 mm (48 in)	1326664	384214	1338089	2
	1372 mm (54 in)	1326665	384215		2
	1524 mm (60 in)	1326666	384216		2
2	Latch	369795	369795	369795	1

**NOTE: OTHER FORK DIMENSIONS AVAILABLE ON REQUEST, CONTACT YOUR HYSTER DEALER.**

**FORKS**  
**TWO STAGE FULL FREE-LIFT MAST**  
**(Figure 228 Continued)**

**H60-65XM**

Ref No	Name Of Part 1 2 3 4	Standard Taper		Full Bottom Taper	Qty
1	Fork	100 mm x 45 mm	125 mm x 50 mm	180 mm x 45 mm	
	914 mm (36 in)	1333018	367419		2
	1067 mm (42 in)	1333020	367420		2
	1207 mm (42.5 in)			1338098	2
	1219 mm (48 in)	1333021	367421		2
	1372 mm (54 in)		367422	1332745	2
	1524 mm (60 in)		367423		2
	1829 mm (72 in)	1333024	367424		2
2	Latch	369796	369796	369796	1

**NOTE: OTHER FORK DIMENSIONS AVAILABLE ON REQUEST, CONTACT YOUR HYSTER DEALER.**

## This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

---

**OPTIONAL**

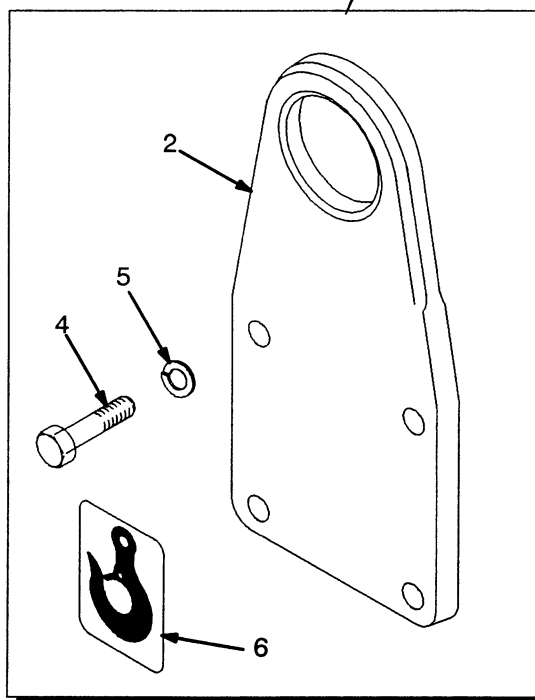
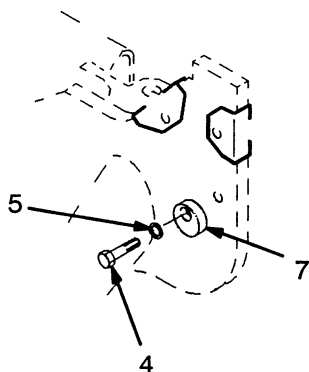
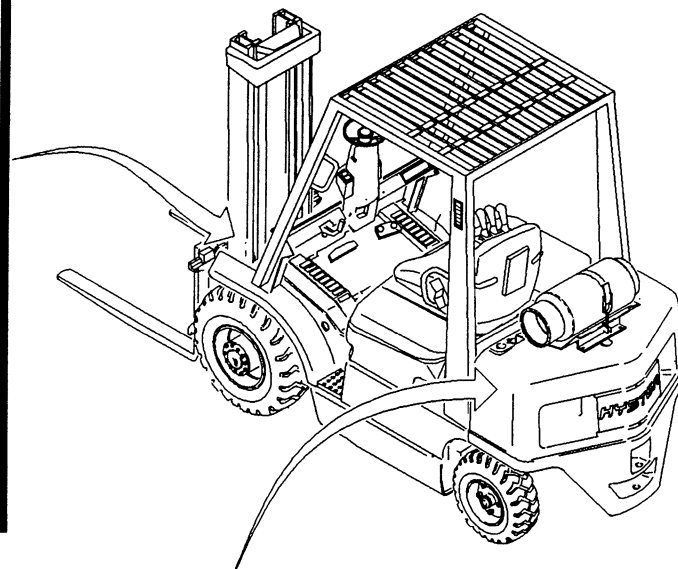
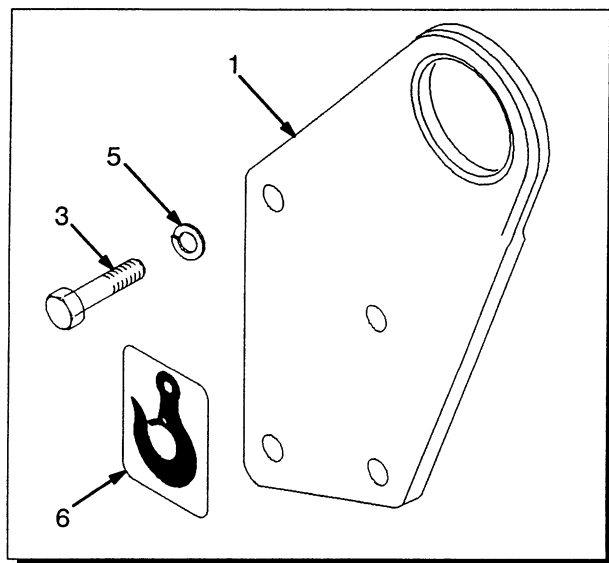
ACCESSORIES (Figure 243)	
CAB .....	Page 460
AUDIBLE ALARMS (Figure 252) .....	Page 471
AUXILIARY TUBE EXTENSION KIT (Figure 253)	
TWO-STAGE LFL .....	Page 472
AUXILIARY TUBE EXTENSION KIT (Figure 254)	
TWO-STAGE & THREE-STAGE FFL .....	Page 474
CAB KIT (Figure 238)	
WITH DOORS MOUNTED INSIDE OVERHEAD GUARD .....	Page 452
CAB KIT (Figure 239)	
WITH DOORS MOUNTED AGAINST OUT-BOARD SIDE OF OVERHEAD GUARD .....	Page 454
CAB KIT (Figure 240)	
PVC .....	Page 456
CAB SOUND LINERS (Figure 245) .....	Page 464
DRIVE & REAR LIGHT (Figure 237) .....	Page 451
FENDERS (Figure 230) .....	Page 438
FIRE EXTINGUISHER (Figure 251) .....	Page 470
HARNESS (Figure 246)	
WIPER .....	Page 465
HARNESS (Figure 247)	
CAB (REAR) .....	Page 466
HARNESS (Figure 248)	
CAB (COWL) .....	Page 467

---

**OPTIONAL (Continued)**

HARNESS (Figure 256) POWERTRAIN PROTECTION .....	Page 478
HARNESS ROUTING (Figure 242) CAB .....	Page 459
HARNESS-REAR (Figure 249) CHASSIS .....	Page 468
HEATER (Figure 244) CAB .....	Page 462
LIFT EYE (Figure 229) .....	Page 437
LOAD BACKREST EXTENSION (Figure 233) 48 INCH (1220 mm) .....	Page 443
MIRROR (Figure 250) .....	Page 469
POWERTRAIN PROTECTION SYSTEM (Figure 255) .....	Page 476
SIDESHIFT CARRIAGE (Figure 231) .....	Page 440
SIDESHIFT CYLINDER (Figure 232) .....	Page 442
STROBE LIGHT (Figure 236) .....	Page 450
TIRE & WHEEL (Figure 234) DRIVE WHEEL .....	Page 444
TIRE & WHEEL (Figure 235) STEER WHEEL .....	Page 448
WINDOWS (Figure 241) CAB .....	Page 458

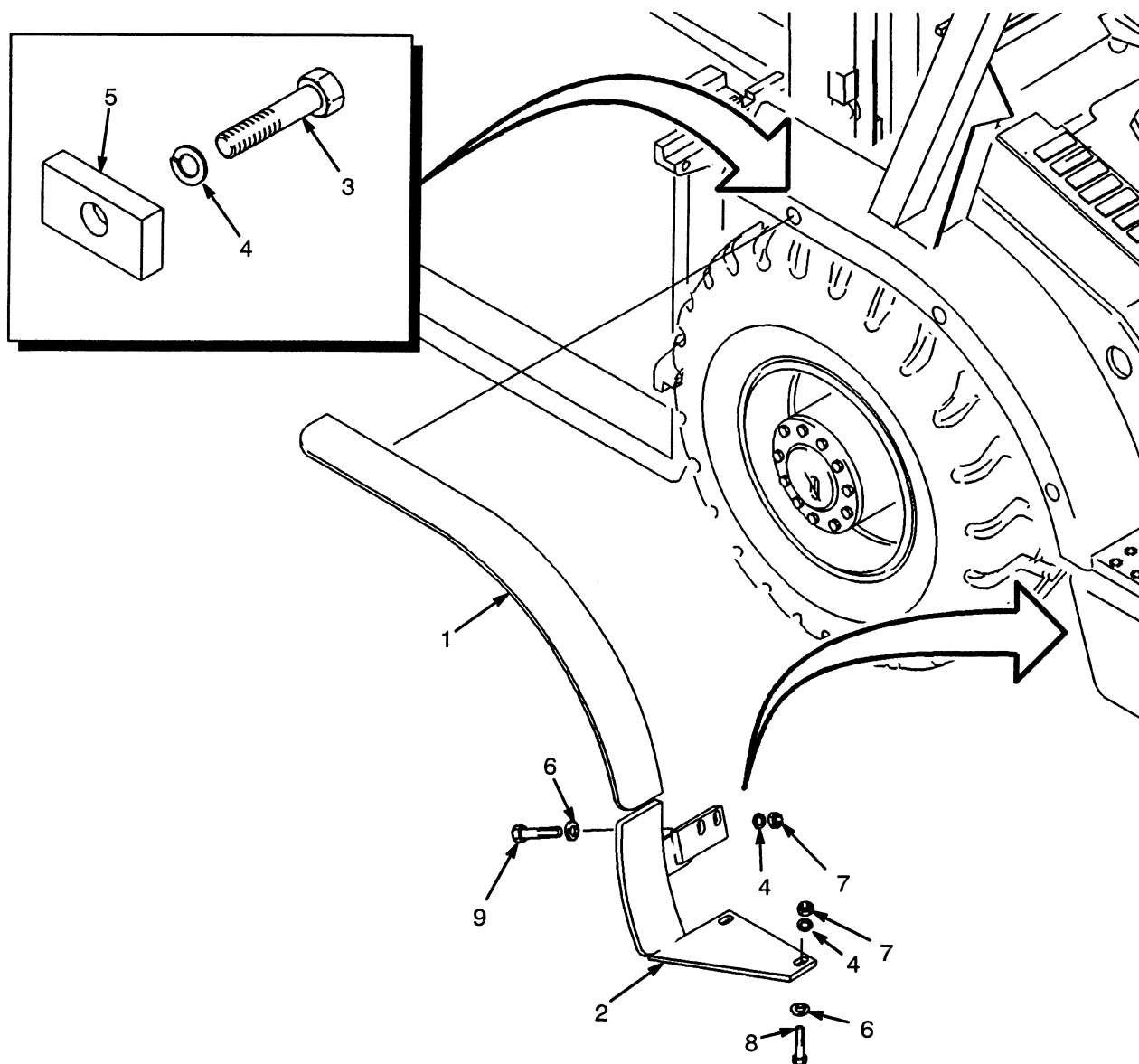
# LIFT EYE (Figure 229)



REF	PART NO.	NAME OF PART	QTY
1	1356400	Plate .....	4
2	1356401	Plate .....	8
3	293645	Capscrew .....	8
4	293647	Capscrew .....	18

REF	PART NO.	NAME OF PART	QTY
5	292683	Washer .....	18
6	316448	Lifting Eyes Label .....	4
7	1369709	Cam .....	2

## FENDERS (Figure 230)



### KEY:

A: Wide Tire  
B: Dual Tire

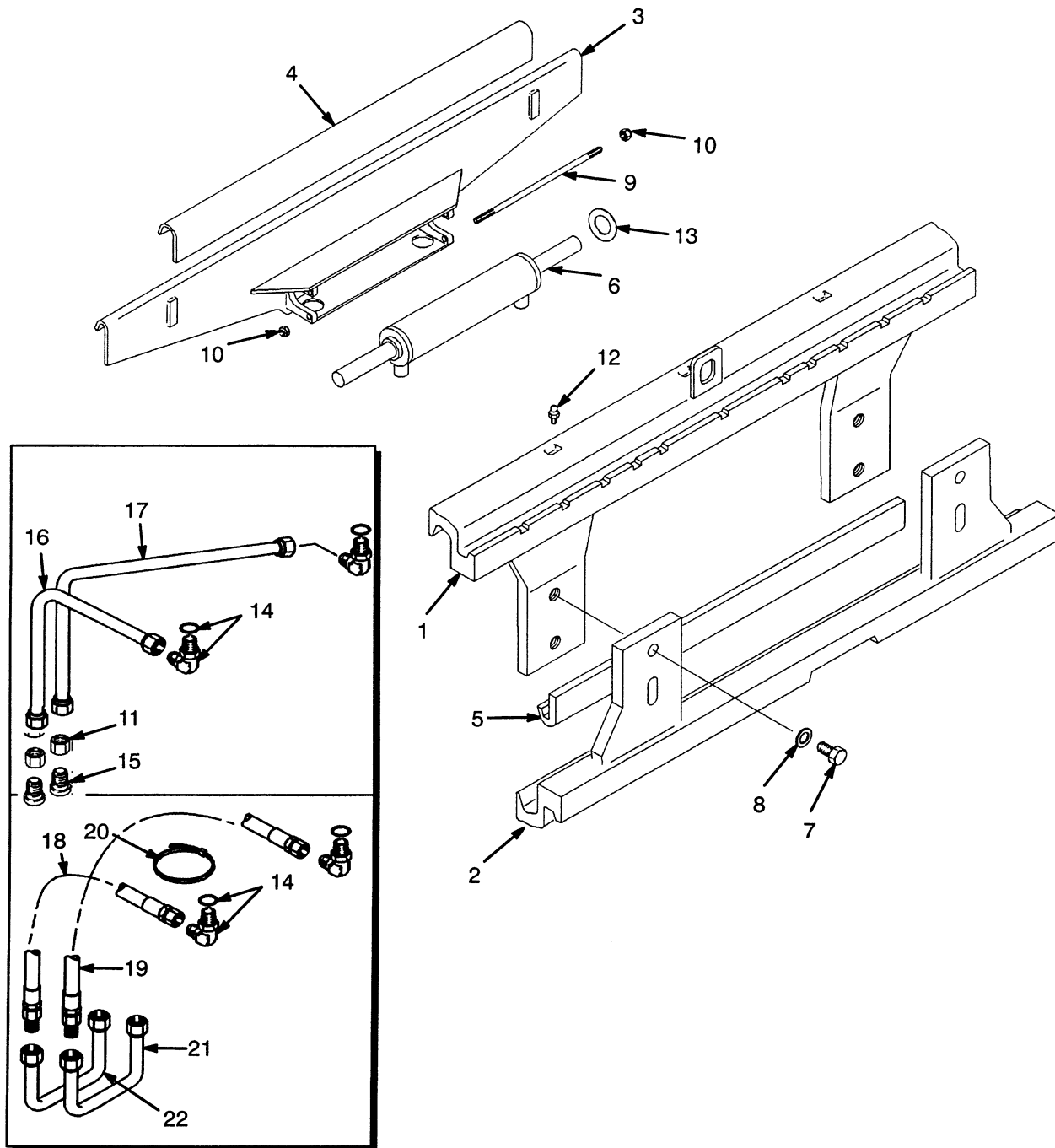
REF	PART NO.	NAME OF PART	QTY	
			A	B
1	1347142	Fender (Upper LH) .....	1	..
1	1347143	Fender (Upper RH) .....	1	..
1	1347196	Fender (Upper LH) .....	..	1
1	1347197	Fender (Upper RH) .....	..	1
2	1347145	Fender (Lower LH) .....	1	..
2	1347146	Fender (Lower RH) .....	1	..
2	1347198	Fender (Lower LH) .....	..	1
2	1347201	Fender (Lower RH) .....	..	1

REF	PART NO.	NAME OF PART	QTY	
			A	B
3	292516	Capscrew .....	6	6
4	292682	Washer .....	14	10
5	1347144	Load Bar .....	6	6
6	320160	Washer .....	8	4
7	136692	Nut .....	8	4
8	287860	Capscrew .....	4	4
9	292515	Capscrew .....	4	..

## This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.



## SIDESHIFT CARRIAGE (Figure 231)



**SIDESHIFT CARRIAGE**

**KEY:**

**A:** H45-55XM 1067 mm (42 Inch)

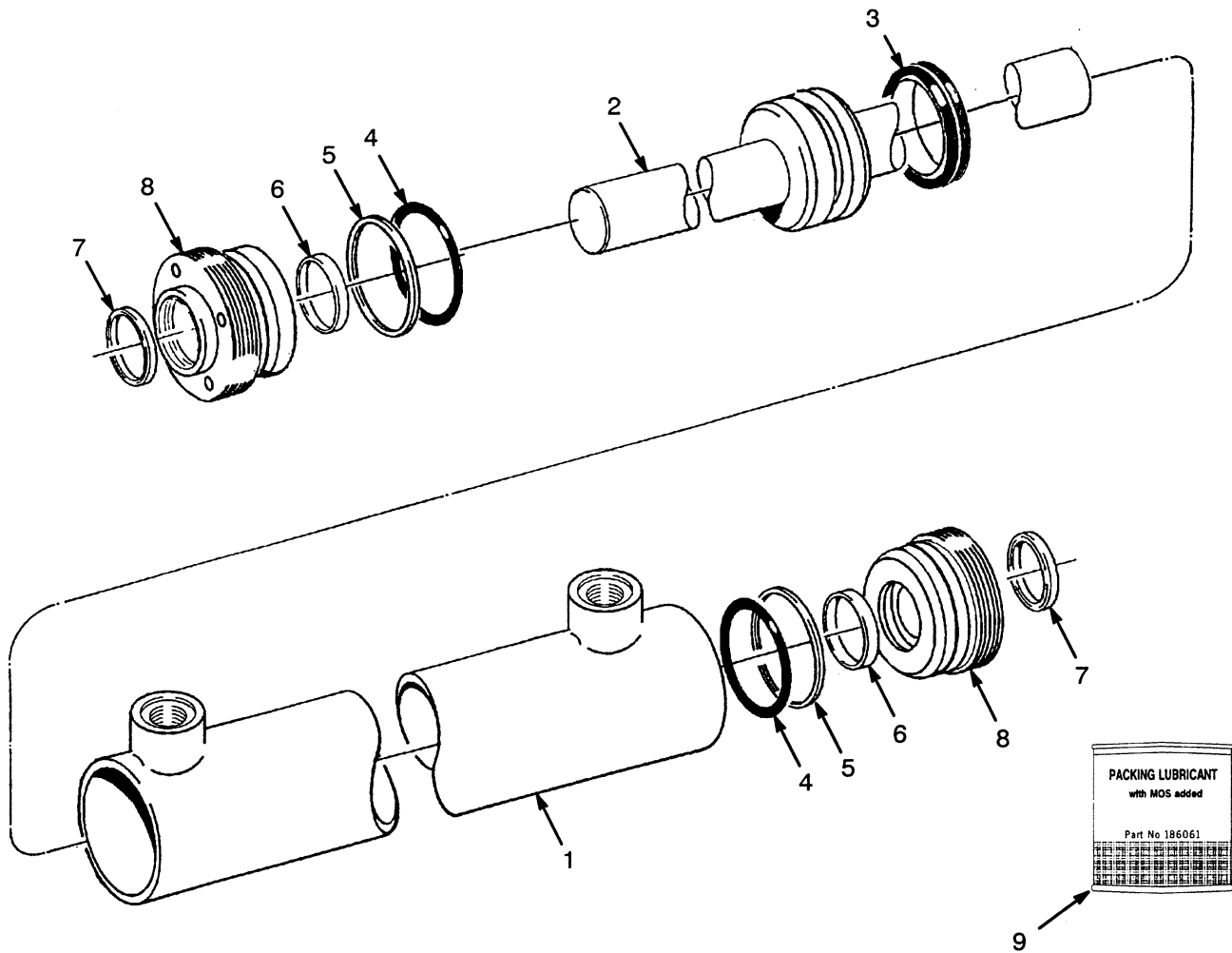
**B:** H45-55XM 1220 mm (48 Inch)

**C:** H60-65XM 1067 mm (42 Inch)

REF	PART NO.	NAME OF PART	QTY		
			A	B	C
h	1356918	Sideshift Carriage .....	1	..	..
k	1399041	Sideshift Carriage .....	1	..	..
h	1376340	Sideshift Carriage .....	1	..	..
k	1399044	Sideshift Carriage .....	1	..	..
h	1356882	Sideshift Carriage .....	..	1	..
k	1399048	Sideshift Carriage .....	..	1	..
1	1355523	Top Apron .....	1	..	..
1	1376341	Top Apron .....	1	..	..
1	1355547	Top Apron .....	..	1	..
2 d	1356873	Bottom Apron .....	1	..	..
2 e	1378055	Bottom Apron .....	1	..	..
2 k	1396431	Shim .....	6	..	..
2 d	1376342	Bottom Apron .....	1	..	..
2 e	1378057	Bottom Apron .....	1	..	..
2 k	1396434	Shim .....	6	..	..
2 d	1356892	Bottom Apron .....	..	1	..
2 e	1378072	Bottom Apron .....	..	1	..
2 k	1396431	Shim .....	..	6	..
3 h	1397265	Cylinder Support .....	1	..	..
3 k	1399006	Cylinder Support .....	1	..	..
3 h	1397267	Cylinder Support .....	1	..	..
3 k	1399008	Cylinder Support .....	6	..	..
3 h	1397277	Cylinder Support .....	..	1	..
3 k	1399023	Cylinder Support .....	..	6	..
4 h	1356867	Top Bearing .....	1	..	..
4 k	1396460	Top Bearing .....	1	..	..
4 h	1376344	Top Bearing .....	1	..	..
4 k	1396462	Top Bearing .....	1	..	..
4 h	1356902	Top Bearing .....	..	1	..
4 k	1396472	Top Bearing .....	..	1	..
5 d	1356863	Bottom Bearing .....	1	..	..
5 e	1378065	Bottom Bearing .....	1	..	..
5 d	1376345	Bottom Bearing .....	1	..	..
5 e	1356863	Bottom Bearing .....	1	..	..
5 d	1356897	Bottom Bearing .....	..	1	..
5 e	1378082	Bottom Bearing .....	..	1	..
6	....	Sideshift Cylinder .....	1	1	1
		☞ Figure 232			
7	293704	Capscrew .....	4	4	..
7	1360229	Capscrew .....	..	4	..
8	296431	Washer .....	4	4	..
8	296435	Washer .....	..	4	..

REF	PART NO.	NAME OF PART	QTY		
			A	B	C
9	1371289	Capscrew .....	2	2	2
9 a	1358809	Rod .....	2	2	2
10	313828	Nut .....	2	2	2
10 a	313828	Nut .....	4	4	4
11	17319	Fitting .....	2	..	2
12	16041	Lube Fitting .....	3	3	3
13	1358821	Shim .....	AR	AR	AR
14	239784	Fitting .....	2	2	1
14	16481	O-Ring .....	1	1	1
15	17218	Fitting .....	2	..	2
16 bf	1369334	Tube .....	1	1	..
16 bf	1369336	Tube .....	..	1	..
16 c	1358814	Tube .....	1	1	..
16 c	1358816	Tube .....	..	1	..
17 bf	1369335	Tube .....	1	1	..
17 bf	1369337	Tube .....	..	1	..
17 c	1358815	Tube .....	1	1	..
17 c	1358817	Tube .....	..	1	..
18 bg	1390365	Hose .....	1	1	..
18 bg	1390367	Hose .....	..	1	..
19 bg	1390366	Hose .....	1	1	..
19 bg	1390368	Hose .....	..	1	..
20 bg	129563	Strap Clamp .....	1	1	1
21 bg	1381765	Tube .....	1	1	1
22 bg	1381766	Tube .....	1	1	1
23 bg	16565	Fitting .....	..	1	..
23 bg	16481	O-Ring .....	..	1	..
a	Optional				
b	Two Stage FFL & Three Stage FFL				
c	Two Stage LFL				
d	Last Used On Attachment S/N B601B-11719, B603B-7259, B603D-1738 (48 inch) & B603D-1717 (60 inch)				
e	First Used On Attachment S/N B601B-11720, B603B-7260, B603D-1739 (48 inch) & B603D-1718 (60 inch)				
f	Last Used on S/N B508V-12601, B509V-2644 B563V-4769, B56V-2196				
g	First Used on S/N B508V-12602, B509V-2645 B563V-4770, B564V-2197				
h	Last Used on S/N B601V-5325, B603V-3011				
k	First Used on S/N B601V-5326, B603V-3012				

## SIDESHIFT CYLINDER (Figure 232)



### KEY:

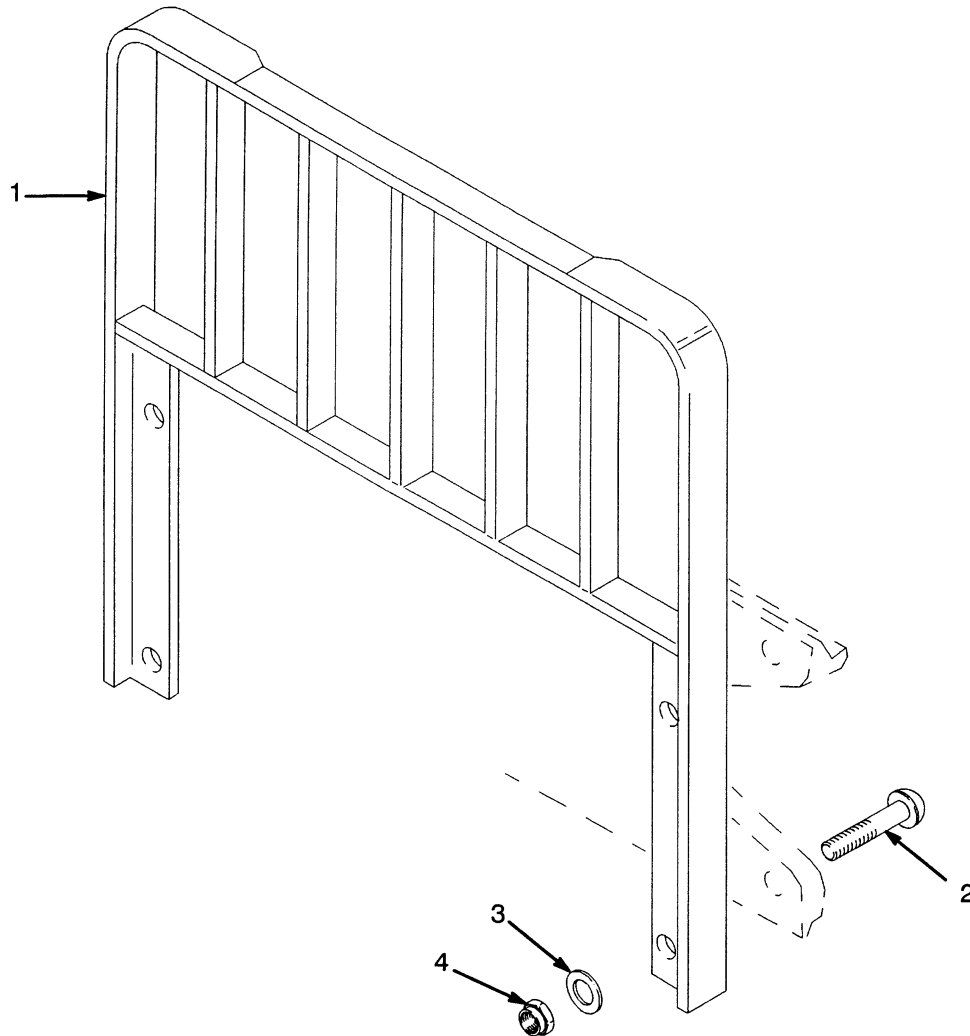
A: H45-55XM

B: H60-65XM

REF	PART NO.	NAME OF PART	QTY	
			A	B
	1360125	Cylinder .....	1	..
	1360126	Cylinder .....	..	1
1	2311471	Tube .....	1	..
1	2304345	Tube .....	..	1
2	2309719	Rod .....	1	..
2	2303634	Rod .....	..	1
3	a 2306755	Piston Seal .....	1	..
3	b 1351184	Piston Seal .....	..	1
4	a 55407	O-Ring .....	2	..
4	b 59229	O-Ring .....	..	2
5	a 153919	Back-Up Ring .....	2	..

REF	PART NO.	NAME OF PART	QTY	
			A	B
5	b 615130	Back-Up Ring .....	..	2
6	ab 294643	Seal .....	2	2
7	ab 636851	Wiper Ring .....	2	2
8	2310768	Gland .....	2	..
8	2306283	Gland .....	..	2
8	383789	Sealant .....	ARAR	
9	186061	Packing Lubricant .....	ARAR	
a Included In Seal Kit 2311624				
b Included In Seal Kit 2307647				

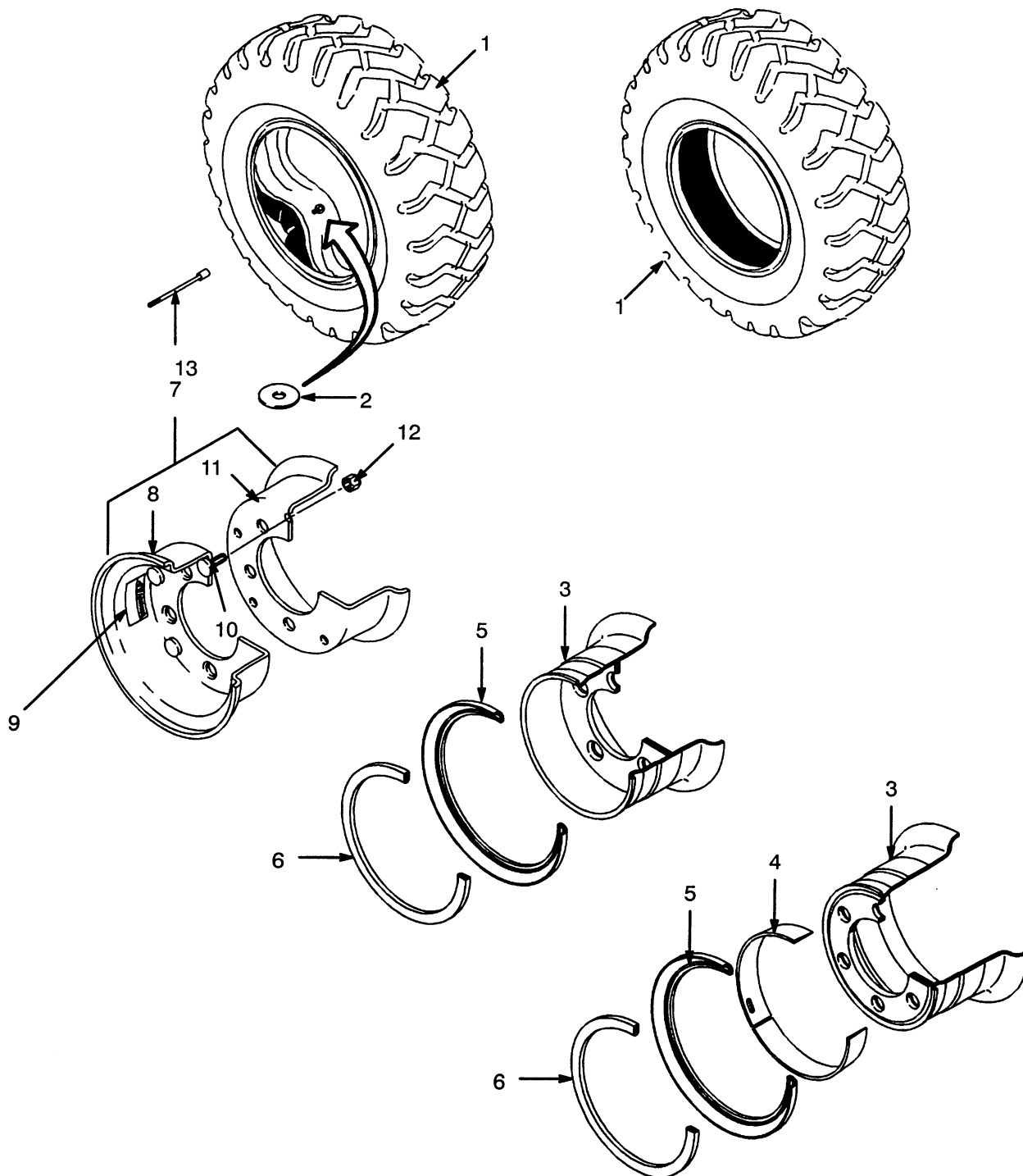
**LOAD BACKREST EXTENSION (Figure 233)**  
**48 INCH (1220 mm)**



REF	PART NO.	NAME OF PART	QTY	REF	PART NO.	NAME OF PART	QTY
1	1376338	Load Backrest Extension .....	1	4	300937	Nut .....	4
2	1343990	Capscrew .....	4	<b>a</b> Optional			
3	221771	Washer .....	4				
3 <b>a</b>	296423	Washer .....	4				

## TIRE & WHEEL (Figure 234)

### DRIVE WHEEL



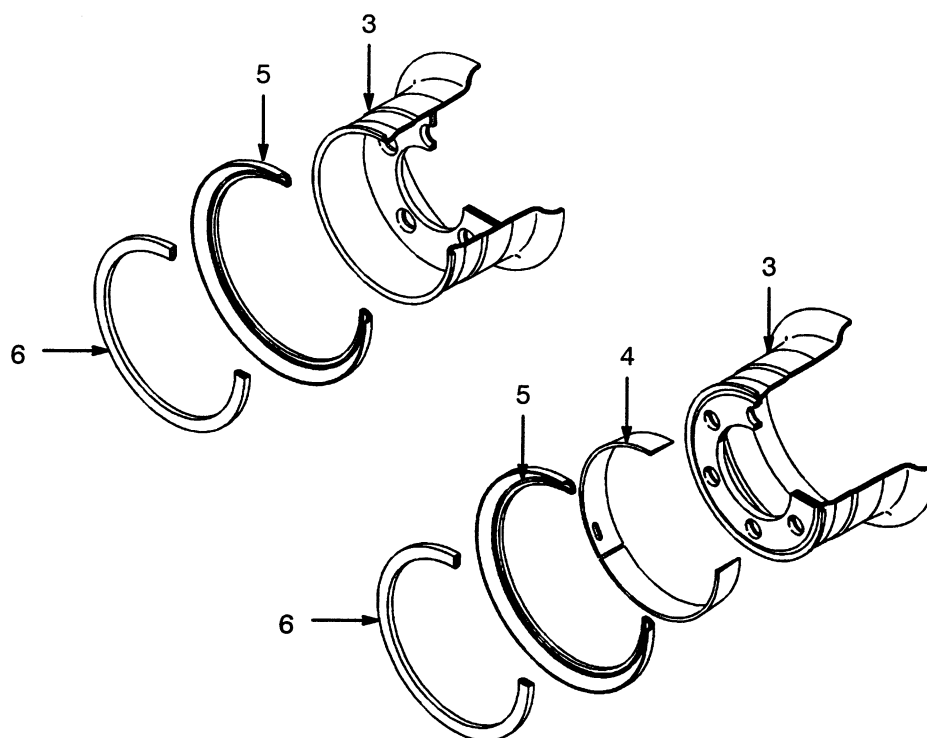
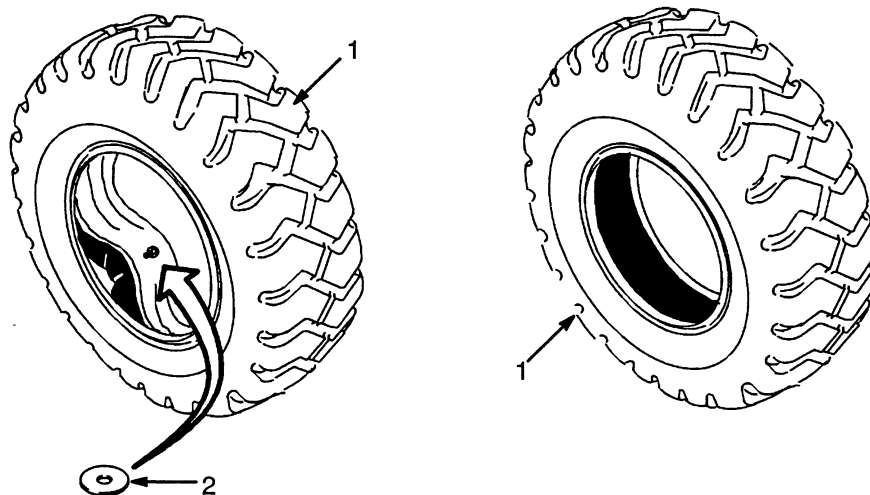
**TIRE & WHEEL**  
**DRIVE WHEEL**  
(Continued On Next Page)

Ref No.	Name Of Part	H45-50XM Single	H45-55XM Wide	QTY	H45-65XM Dual	QTY
		7.00 x 12	7.00 x 12		7.00 x 12	
1	Tire-Solid Soft Ride Tire-Solid Std Hardness	336087 174209	336087 174209	2 2	174209	4
1	Tire/Tube-Bias Tire/Flap Tube	130619 45736 45737	130619 45736 45737	2 1 1	130619 45736 45737	4 1 1
1	Tire/Tube-Radial Tire/Flap Flap Tube	1337743 1358179 1358019 1358190	1337743 1358179 1358019 1358190	2 1 1 1	1337743 1358179 1358019 1358190	4 1 1 1
2	Washer	<b>b</b> 1376007	<b>b</b> 1376007	2	<b>b</b> 1376007	4
3	Wheel 5.00 x 12	<b>ab</b> 1347190	<b>ab</b> 329064	2	<b>ab</b> 1347190	4
4	Shoulder Ring	<b>a</b> 806556	<b>a</b> 806556	1	<b>a</b> 806556	1
5	Side Ring	<b>a</b> 161890	<b>a</b> 161890	1	<b>a</b> 161890	1
6	Lock Ring	<b>a</b> 161889	<b>a</b> 161889	1	<b>a</b> 161889	1
7	Wheel (2-Piece)	377846		2	377846	4
8	Outer Wheel	377844		1	377844	1
9	Label-Warning	288638		2	288638	2
10	Bolt	377841		6	377841	6
11	Inner Wheel	377845		1	377845	1
12	Nut	53163		6	53163	6
13	Valve Extension				326477	1

**a** 4 Piece Design (Required for Bergougnan Tire)

**b** Required on Radial Tire

## TIRE & WHEEL DRIVE WHEEL



**TIRE & WHEEL  
DRIVE WHEEL**

Ref No.	Name Of Part	H45-65XM Standard	H45-65XM Wide	QTY
		28 x 9-15	28 x 9-15	
1	Tire-Solid Soft Ride Tire-Solid Std Hardness-Pneu	336094	336094	2
		174211	174211	2
1	Tire/Tube-Bias Tire/Flap Tube Tire	145096	145096	2
		145097	145097	1
		145157	145157	1
1	Tire/Tube-Radial Tire/Flap Flap Tube	1357300	1357300	2
		1358183	1358183	1
		1358016	1358016	1
		1358194	1358194	1
2	Washer	<sup>c</sup> 1376007	<sup>c</sup> 1376007	2
3	Wheel 7.00 x 15	<sup>a</sup> 1334818	<sup>a</sup> 381004	2
		<sup>b</sup> 1334813	<sup>b</sup> 381002	2
		<sup>da</sup> 1334815		
4	Shoulder Ring	<sup>b</sup> 806557	<sup>b</sup> 806557	1
5	Side Ring	160653	<sup>a</sup> 322637	1
		<sup>da</sup> 322637	<sup>b</sup> 161890	
6	Lock Ring	980542	<sup>a</sup> 322638	1
		<sup>da</sup> 322638	<sup>b</sup> 980542	

<sup>a</sup> 3 Piece Design

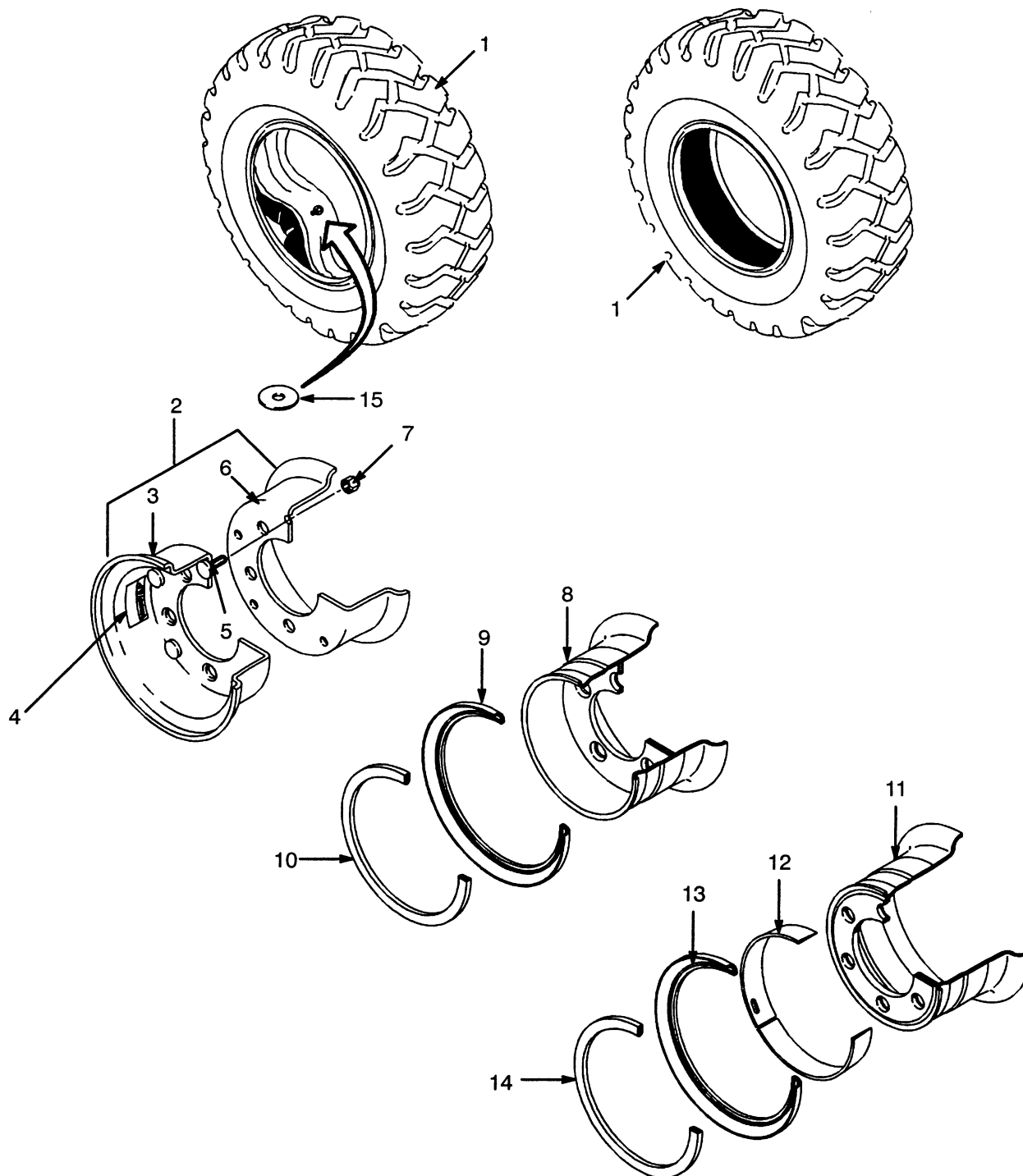
<sup>b</sup> 4 Piece Design (Required for Bergougnan Tire)

<sup>c</sup> Required on Radial Tire

<sup>d</sup> Optional



## TIRE & WHEEL (Figure 235) STEER WHEEL

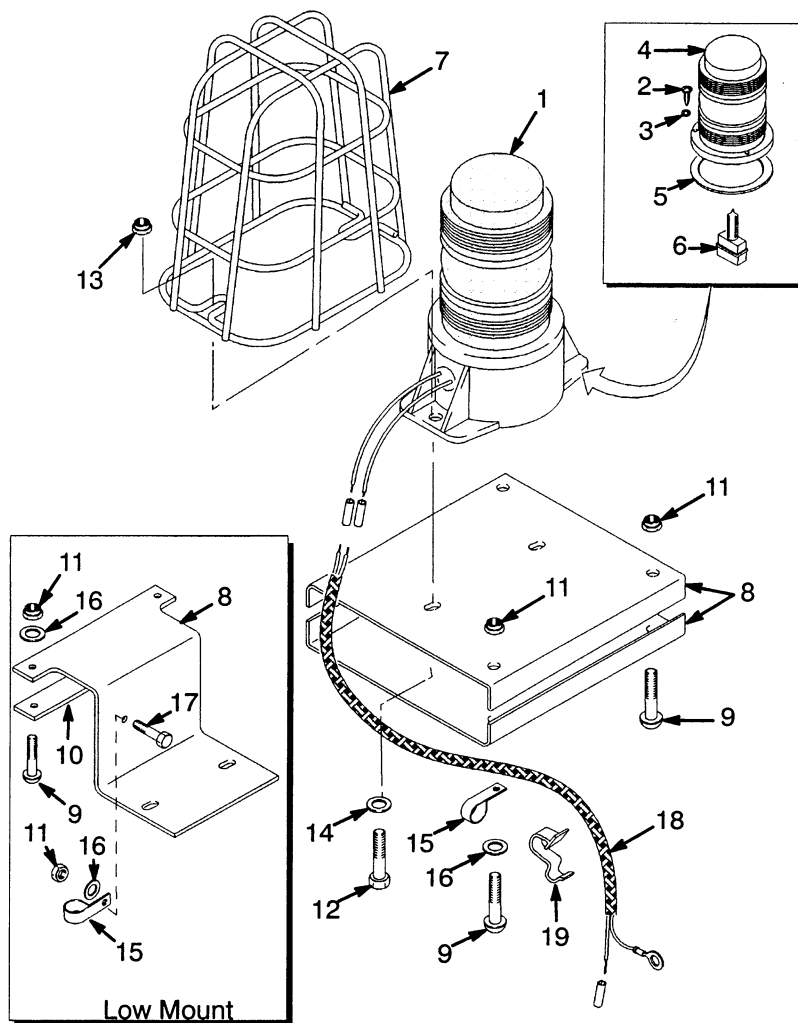


**TIRE & WHEEL  
STEER WHEEL**

**KEY:**  
**A:** Solid  
**B:** Standard/Premium  
**C:** Radial

Ref No.	Name Of Part	H45-50XM 6.00 X 9	H55-65XM 6.50 X 10	Qty		
				A	B	C
1	Tire-Solid	195417	174208	2		
1	Tire/Tube-Standard	306209	137138		2	
	Tire/Flap	29588	137139		1	
	Tube	306200	135920		1	
1	Tire/Tube-Premium	1367440	1367441		2	
	Tire/Flap	1367444	1367445		1	
	Flap	45069	135921		1	
	Tube	306200	135920		1	
1	Tire Assembly-Radial	1357302	1337746			2
	Tire	1358177	1358178			1
	Flap	1358018	1358020			1
	Tube	1358188	1358189			1
2	Wheel Assembly (2-Piece)	61220	236437	..	2	..
3	Wheel (Outer)	60948	135915	..	1	..
4	Label-Warning)	288638	288638	..	2	..
5	Stud	377841	.....	..	5	..
5	Stud	.....	135917	..	10	..
6	Wheel (Inner)	291912	291915	..	1	..
7	Nut	53163	.....	..	5	..
7	Nut	.....	221355	..	10	..
8	Wheel Assembly (3-Piece)	.....	323594	2	..	2
9	Side Ring	.....	323599	1	..	1
10	Lock Ring	.....	323598	1	..	1
11	Wheel Assembly (4-Piece)	.....	1360932	..	2	..
12	Shoulder Ring	.....	806555	..	1	..
13	Side Ring	.....	161895	..	1	..
14	Lock Ring	.....	161894	..	1	..
11	Wheel Assembly (4-Piece)	359340	345897	2	..	2
12	Shoulder Ring	359341	806555	1	..	1
13	Side Ring	161885	161895	1	..	1
14	Lock Ring	161884	161894	1	..	1
15	Washer	.....	1376007	..	..	1

## STROBE LIGHT (Figure 236)



### KEY:

A: Low Mount

B: High Mount

REF	PART NO.	NAME OF PART	QTY	
			A	B
1	<sup>b</sup> 1374922	Strobe Light .....	1	1
1	<sup>c</sup> 1382130	Strobe Light .....	1	1
1	<sup>a</sup> 1385522	Strobe Light .....	1	1
2	227132	Screw .....	3	3
3	15855	O-Ring .....	3	3
4	<sup>b</sup> 1309776	Lens .....	1	1
4	<sup>c</sup> 1382131	Lens .....	1	1
5	39359	O-Ring .....	1	1
6	1309775	Bulb .....	1	1
7	1302024	Guard .....	1	1
8	1356541	Bracket .....	1	..
8	1356342	Bracket .....	..	1
9	302054	Screw .....	2	4

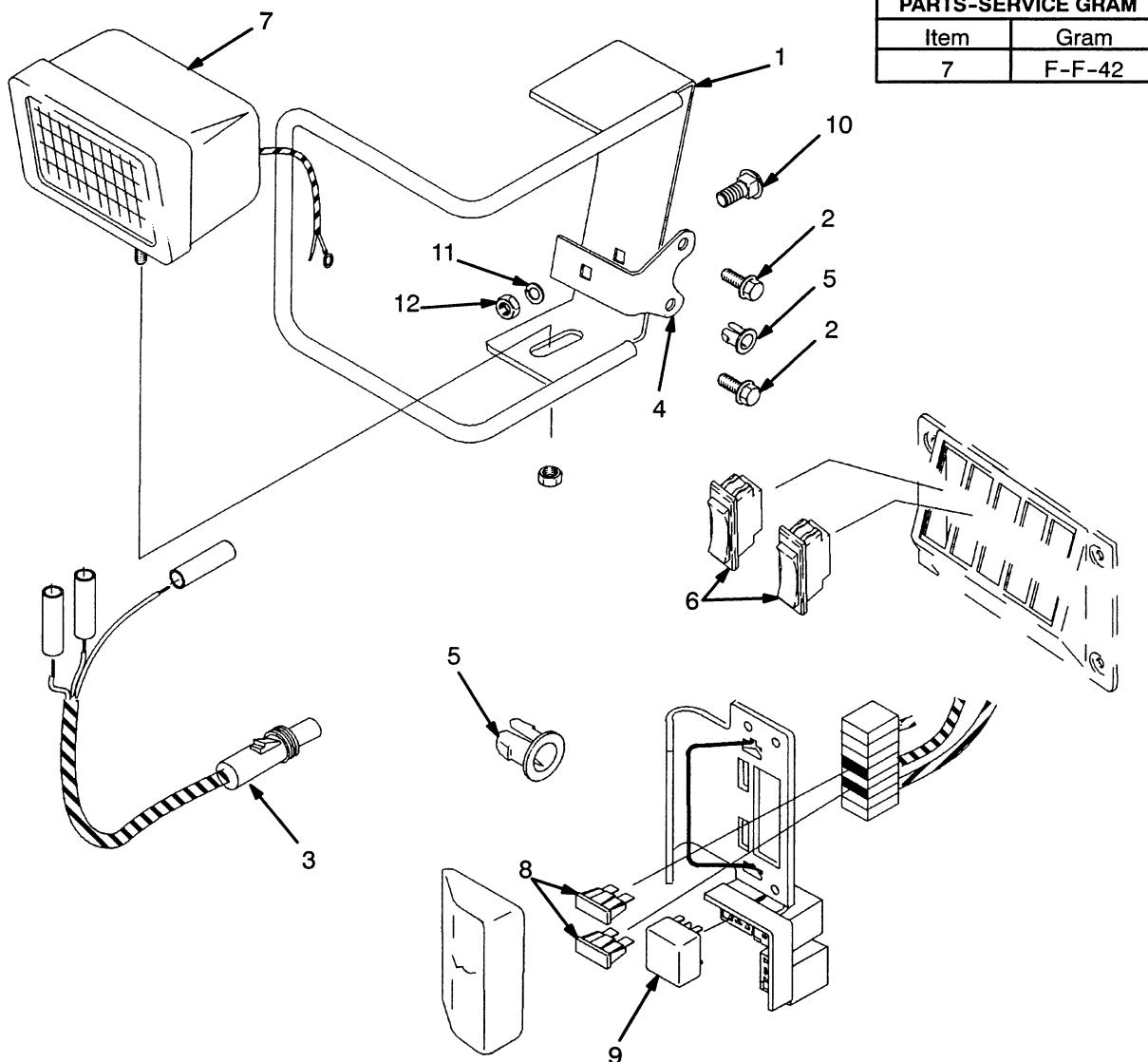
REF	PART NO.	NAME OF PART	QTY	
			A	B
10	1356540	Bar .....	1	..
11	313805	Nut .....	3	..
12	220498	Screw .....	2	2
13	230882	Nut .....	2	2
14	197067	Washer .....	2	2
15	164488	Clamp .....	1	1
16	320156	Washer .....	3	1
17	302047	Screw .....	1	..
18	1356543	Harness .....	1	1
19	1301727	Clamp .....	4	4

<sup>a</sup> Optional

<sup>b</sup> Last Used On S/N D177B-35734

<sup>c</sup> First Used On S/N D177B-35735

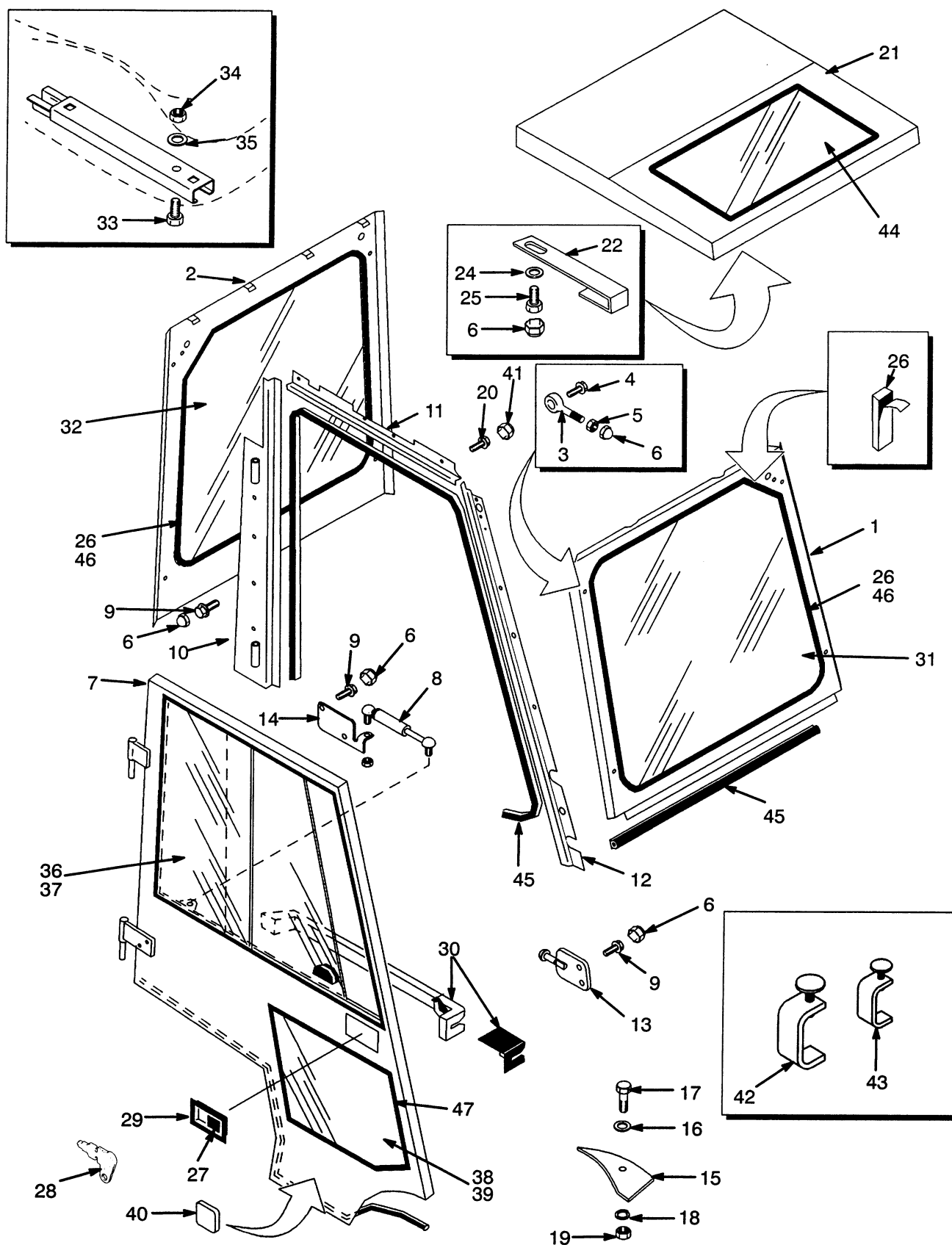
# DRIVE & REAR LIGHT (Figure 237)



REF	PART NO.	NAME OF PART	QTY
1	1375172	Bracket (LH) .....	1
1	1375171	Bracket (RH) .....	1
1 <sup>c</sup>	878138	Bracket .....	2
1	1376579	Rear Bracket .....	1
2	316678	Screw .....	6
2 <sup>c</sup>	292500	Capscrew .....	4
3	1356328	Harness-Wire .....	3
4	1375169	Plate .....	3
5	1367645	Bushing .....	5
5 <sup>c</sup>	878232	Grommet .....	2
6	1301160	Switch .....	2
6	1301156	Lens .....	1
7	1354119	Light .....	3
7	1379799	Bulb .....	1

REF	PART NO.	NAME OF PART	QTY
7	1363016	Lens .....	1
7	1363016	Lens .....	1
8 <sup>a</sup>	1300134	Fuse (25 Amp) .....	2
8 <sup>b</sup>	1310630	Fuse (15 Amp) .....	2
9 <sup>a</sup>	1347114	Relay .....	1
10	1375168	Bolt .....	3
11	296418	Washer .....	3
11 <sup>c</sup>	320156	Washer .....	4
12	316835	Locknut .....	3
12 <sup>c</sup>	136687	Nut .....	4
<sup>a</sup> Last Used On S/N D177B-35854			
<sup>b</sup> First Used On S/N D177B-35855			
<sup>c</sup> Used With Cab Kit 895972			

## CAB KIT (Figure 238) WITH DOORS MOUNTED INSIDE OVERHEAD GUARD



## CAB KIT

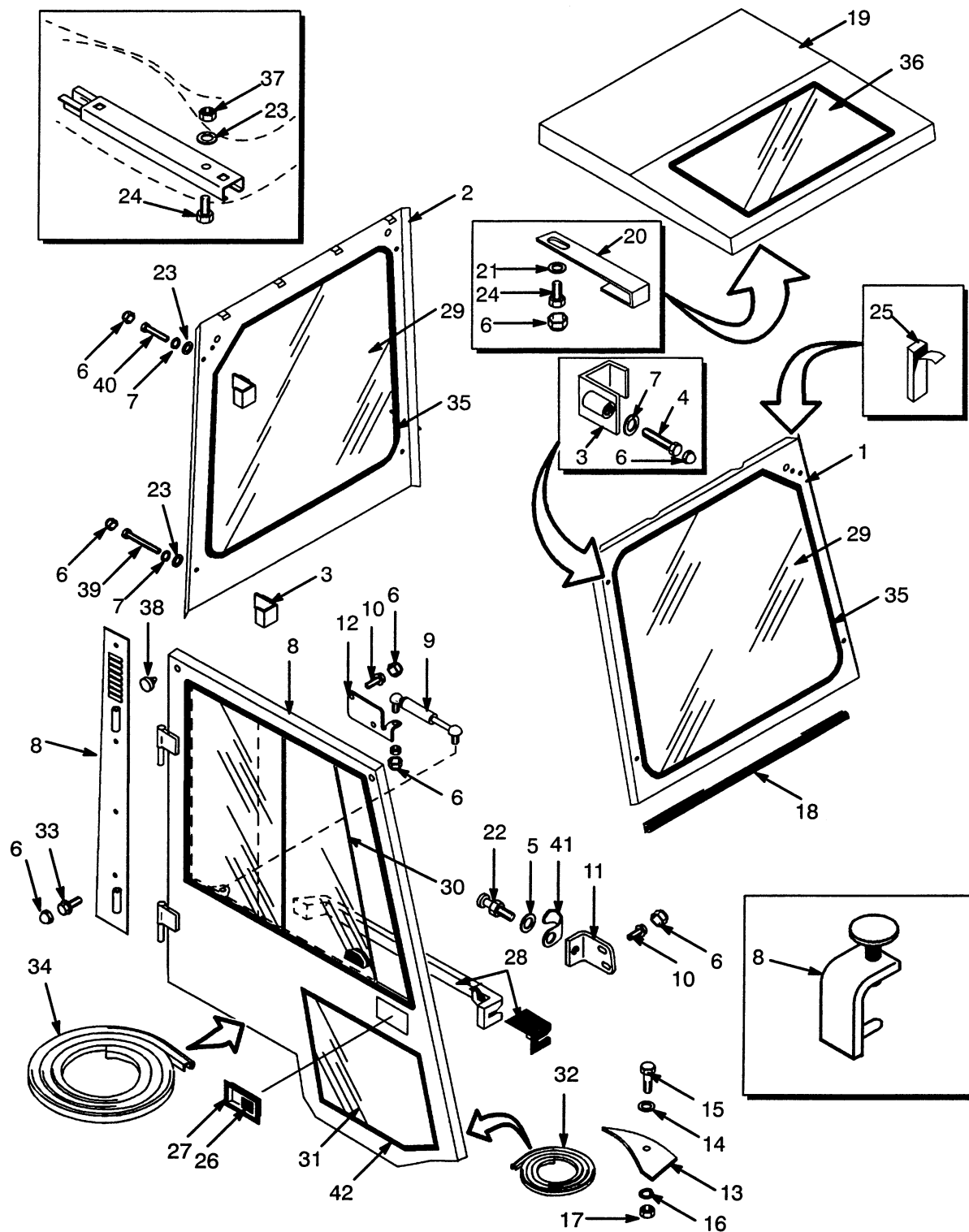
### WITH DOORS MOUNTED INSIDE OVERHEAD GUARD

**KEY:**

A: Front Panel  
B: Rear Panel  
C: Door  
D: Top

REF	PART NO.	NAME OF PART	QTY				REF	PART NO.	NAME OF PART	QTY			
			A	B	C	D				A	B	C	D
1	1369067	Panel .....	1	..	..	..	26	1365290	Strip .....	AR	AR	..	..
2	1366604	Panel .....	1	..	..	..	27 <sup>c</sup>	1366609	Lock .....	..	1	..	..
3	1365293	Eyebolt .....	4	4	..	..	27 <sup>d</sup>	1366614	Lock .....	..	1	..	..
4	1365294	Screw .....	4	4	..	..	28	1367111	Key .....	..	4	..	..
5	316835	Nut .....	4	4	..	..	29	1366620	Lock Plate .....	..	2	..	..
6	1365296	Cap .....	21	4	..	4	30 <sup>c</sup>	1374065	Grip .....	..	1	..	..
7 <sup>c</sup>	1366608	Door .....	..	1	..	..	30 <sup>d</sup>	1374066	Grip .....	..	1	..	..
7 <sup>d</sup>	1366613	Door .....	..	1	..	..	31	1369471	Windshield .....	1	..	..	..
8	1366618	Gas Spring .....	..	2	..	..	32	1369472	Windshield .....	1	..	..	..
9	1366624	Screw .....	..	6	..	..	33	1366681	Capscrew .....	1	..	..	..
10	1366615	Plate, LH .....	..	1	..	..	34	239503	Nut .....	1	..	..	..
10	1366610	Plate, RH .....	..	1	..	..	35	292681	Washer .....	1	..	..	..
11	1366616	Top Plate, LH .....	..	1	..	..	36 <sup>c</sup>	1369425	Sliding Window .....	..	1	..	..
11	1366611	Top Plate, RH .....	..	1	..	..	36	1380754	Latch-Window .....	..	1	..	..
12	1366617	Plate, LH .....	..	1	..	..	36	1380754	Latch-Window .....	..	1	..	..
12	1366612	Plate, RH .....	..	1	..	..	37 <sup>d</sup>	1369427	Sliding Window .....	..	1	..	..
13	1368950	Striker Plate, LH .....	..	1	..	..	38 <sup>c</sup>	1369426	Window (Bottom) .....	..	1	..	..
13	1368951	Striker Plate, RH .....	..	1	..	..	39 <sup>d</sup>	1369428	Window (Bottom) .....	..	1	..	..
14	1367109	Plate, LH .....	..	1	..	..	40	1366621	Rubber Stop .....	..	2	..	..
14	1367110	Plate, RH .....	..	1	..	..	41	1368961	Cap .....	..	4	..	..
15 <sup>d</sup>	1359510	Panel .....	..	1	..	..	42	1366619	Hook (Rear) .....	..	2	..	..
15 <sup>c</sup>	1359509	Panel .....	..	1	..	..	43	1369474	Hook (Front) .....	..	2	..	..
16	1368957	Spacer .....	..	2	..	..	44	1366627	Windshield .....	..	..	1	..
17	292509	Capscrew .....	..	2	..	..	45	1365291	Molding .....	1	..	..	..
18	320157	Washer .....	..	2	..	..	45	1374078	Molding .....	..	1	..	..
19	316835	Nut .....	..	2	..	..	46	1365292	Strip .....	1	..	..	..
20	1365294	Screw .....	..	4	..	..	46	1374079	Strip .....	1	..	..	..
21 <sup>a</sup>	1368965	Panel .....	..	..	1	..							
21 <sup>b</sup>	1368966	Panel .....	..	..	1	..							
22	1366632	Bracket .....	..	..	4	..	<sup>a</sup>	Standard Height					
23	1382056	Strip .....	..	2	..	..	<sup>b</sup>	Raised Height					
24	292681	Washer .....	..	..	4	..	<sup>c</sup>	Right Hand					
25	136681	Capscrew .....	..	..	4	..	<sup>d</sup>	Left Hand					

## CAB KIT (Figure 239) WITH DOORS MOUNTED AGAINST OUT-BOARD SIDE OF OVERHEAD GUARD



## CAB KIT

WITH DOOR MOUNTED AGAINST OUT-BOARD SIDE OF OVERHEAD GUARD

**KEY:**

**A:** Kit- 895972 Front Panel

**B:** Kit-895973 Rear Panel

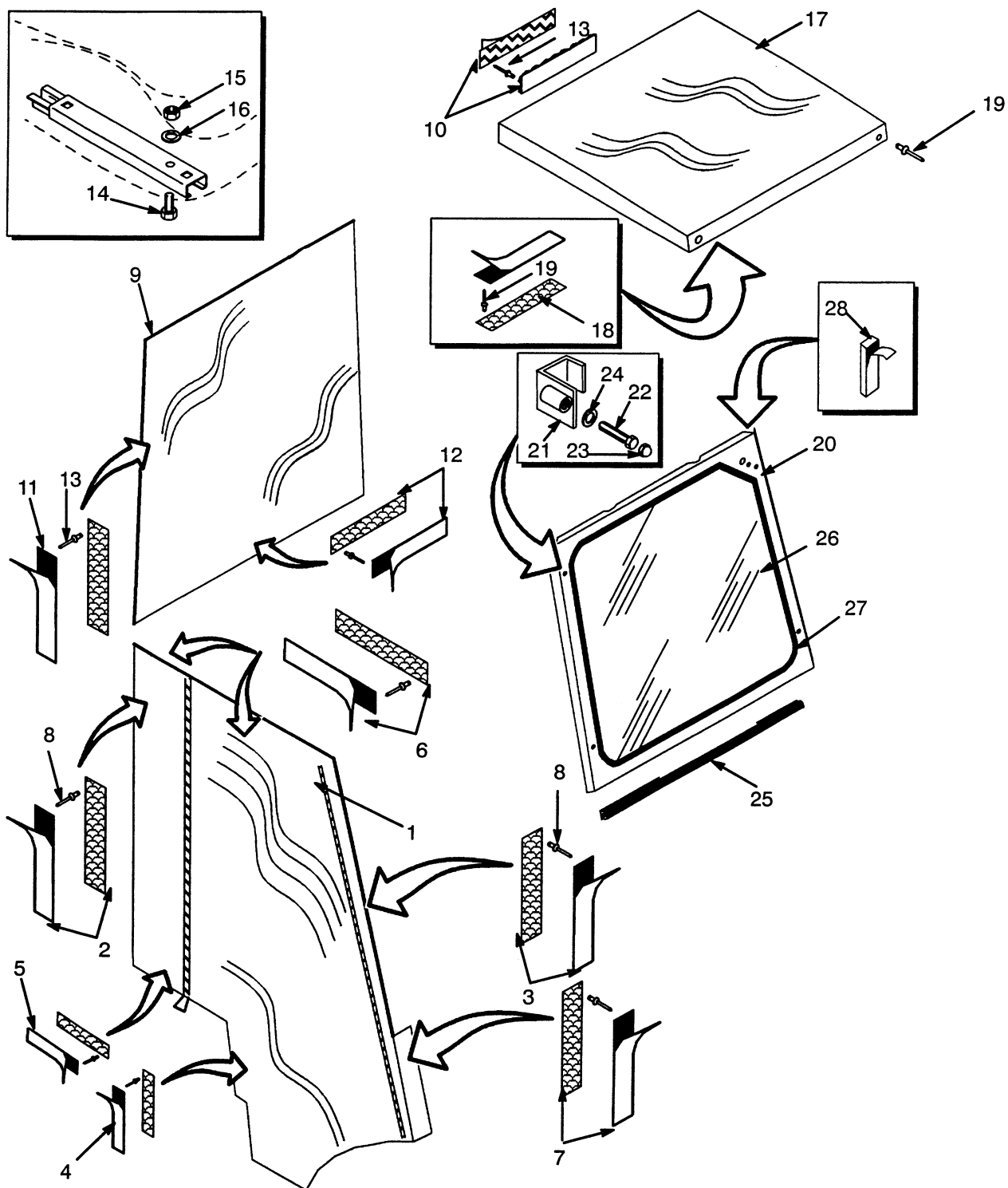
**C:** Kit-895974 Door

**D:** Kit 1356410 Std Height Top and 1356411 Raised Height Top

REF	PART NO.	NAME OF PART	QTY				REF	PART NO.	NAME OF PART	QTY			
			A	B	C	D				A	B	C	D
1	1393168	Panel .....	1	..	..	..	25	1365290	Strip .....	AR	AR	..	..
2	1393169	Panel .....	1	..	..	..	26	878490	DoorLock Assembly, RH ..	..	..	1	..
3	878133	Screen Retaining Clamp	4	4	..	..	26	1450744	Lever .....	..	1	..	..
4	1393167	Screw .....	4	..	..	..	26	878491	DoorLock Assembly, LH ..	..	..	1	..
5	878907	Washer .....	..	..	2	..	26	1450744	Lever .....	..	1	..	..
6	1365296	Cap .....	4	4	18	4	26	1367111	Key .....	..	4	..	..
7	320157	Washer .....	4	4	4	..	27	878906	Lock Plate .....	..	2	..	..
8	878226	Door, RH .....	..	1	..	..	28	878143	Grip, RH .....	..	1	..	..
8	878227	Door, LH .....	..	1	..	..	28	1374066	Grip, LH .....	..	1	..	..
8	1366619	Mounting Hook (Front) ..	..	4	..	..	29	1369471	Windshield .....	1	..	..	..
8	1369474	Mounting Hook (Rear) ..	..	4	..	..	29	1369472	Windshield .....	1	..	..	..
9	1366618	Gas Spring .....	..	2	..	..	30	1369425	Sliding Window, RH .....	..	1	..	..
10	1366624	Screw .....	..	6	..	..	30	1380754	Latch-Window .....	..	1	..	..
11	878904	Striker Plate, LH .....	..	1	..	..	30	1369427	Sliding Window, LH .....	..	1	..	..
11	878903	Striker Plate, RH .....	..	1	..	..	30	1380754	Latch-Window .....	..	1	..	..
12	878092	Plate, LH .....	..	1	..	..	31	1369426	Window (Bottom), RH ....	..	1	..	..
12	878091	Plate, RH .....	..	1	..	..	31	1369428	Window (Bottom), LH ....	..	1	..	..
13	1359510	Panel, LH .....	..	1	..	..	32	878148	Seal .....	..	2	..	..
13	1359509	Panel, RH .....	..	1	..	..	33	1366624	Capscrew .....	..	18	..	..
14	1368957	Spacer .....	..	2	..	..	34	878233	Joining Rubber .....	..	2	..	..
15	292509	Capscrew .....	..	2	..	..	35	1365292	Strip .....	AR	AR	..	..
16	320157	Washer .....	..	2	..	..	36	1366627	Windshield .....	..	..	1	..
17	316835	Nut .....	..	2	..	..	37	239503	Nut .....	1	..	..	..
18	1365291	Edge Protection .....	AR	..	..	..	38	1367639	Grommet .....	..	4	..	..
19 <sup>a</sup>	1368965	Panel .....	..	..	1	..	39	1334820	Capscrew .....	2	..	..	..
19 <sup>b</sup>	1368966	Panel .....	..	..	1	..	40	346656	Capscrew .....	2	..	..	..
20	1366632	Bracket .....	..	..	4	..	41	878909	Hook .....	..	2	..	..
21	320157	Washer .....	..	..	4	..	42	1382056	Strip .....	..	2	..	..
22	878908	Lock Pin .....	..	2	..	..							
23	292681	Washer .....	5	..	4	..	<sup>a</sup>	Standard Height					
24	136681	Capscrew .....	1	..	4	..	<sup>b</sup>	Raised Height					



## CAB KIT (Figure 240) PVC



**CAB KIT**  
**PVC**

REF	PART NO.	NAME OF PART	QTY	REF	PART NO.	NAME OF PART	QTY
	1356412	Door Kit .....	2	15	239503	Nut .....	1
1	1366625	PVC Side Panel (RH) .....	1	16	292681	Capscrew .....	1
1	1366626	PVC Side Panel (LH) .....	1	17	1356509	Top Panel (STD) .....	1
2	1374068	Strip (40 mm x 900 mm) .....	1	17	1356510	Top Panel (Raised) .....	1
3	1374072	Strip (20 mm x 1350 mm) .....	1	18	1374075	Strip (40 mm x 1010 mm) .....	1
4	1374071	Strip (40 mm x 100 mm) .....	1	19	1374074	Rivet .....	2
5	1374070	Strip (40 mm x 200 mm) .....	1	20	895972	Front Panel Kit .....	1
6	1374069	Strip (20 mm x 1229 mm) .....	1	20	1393168	Front Panel .....	1
7	1374073	Strip (40 mm x 410 mm) .....	1	21	878133	Retaining Clamps .....	4
8	1374074	Rivet .....	12	22	1393167	Screw .....	4
9	1356511	Rear Panel .....	1	23	1365296	Cap .....	4
10	1374076	Strip (40 mm x 888 mm) .....	1	24	320157	Washer .....	4
11	1374077	Strip (40 mm x 1125 mm) .....	1	25	1365291	Strip .....	1
12	1374070	Strip (40 mm x 200 mm) .....	1	26	1369471	Windshield .....	1
13	1374074	Rivet .....	8	27	1365292	Strip .....	1
14	136681	Capscrew .....	1	28	1365290	Strip .....	1

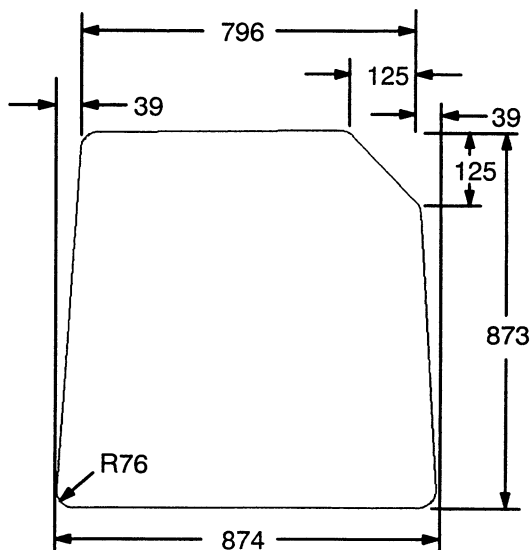
## WINDOWS (Figure 241)

### CAB

TOP SCREEN IS TO BE 6mm THICK SCRATCH-RESISTANT-COATED POLYCARBONATE

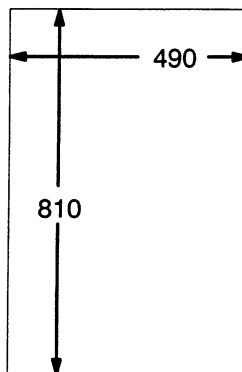
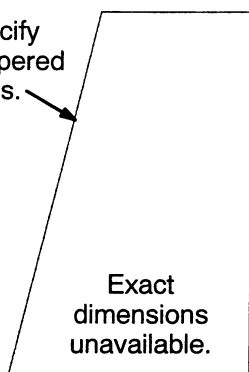
Exact  
dimensions  
unavailable.

FRONT GLASS IS TO BE 5.9-7.5 mm THICK SAFETY GLASS OR GREEN TINTED SAFETY GLASS PER ANSI Z26.1 WITH ALL EDGES TO BE GROUND PER SAE J673b

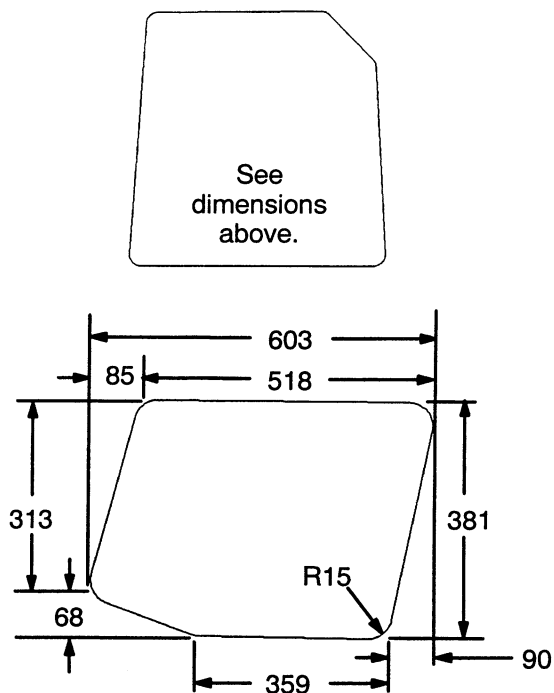


REAR AND SIDE GLASS IS TO BE 5.6-6.5 mm THICK SAFETY GLASS OR GREEN TINTED SAFETY GLASS PER ANSI Z26.1 WITH ALL EDGES TO BE GROUND PER SAE J673b

Specify  
tempered  
glass.



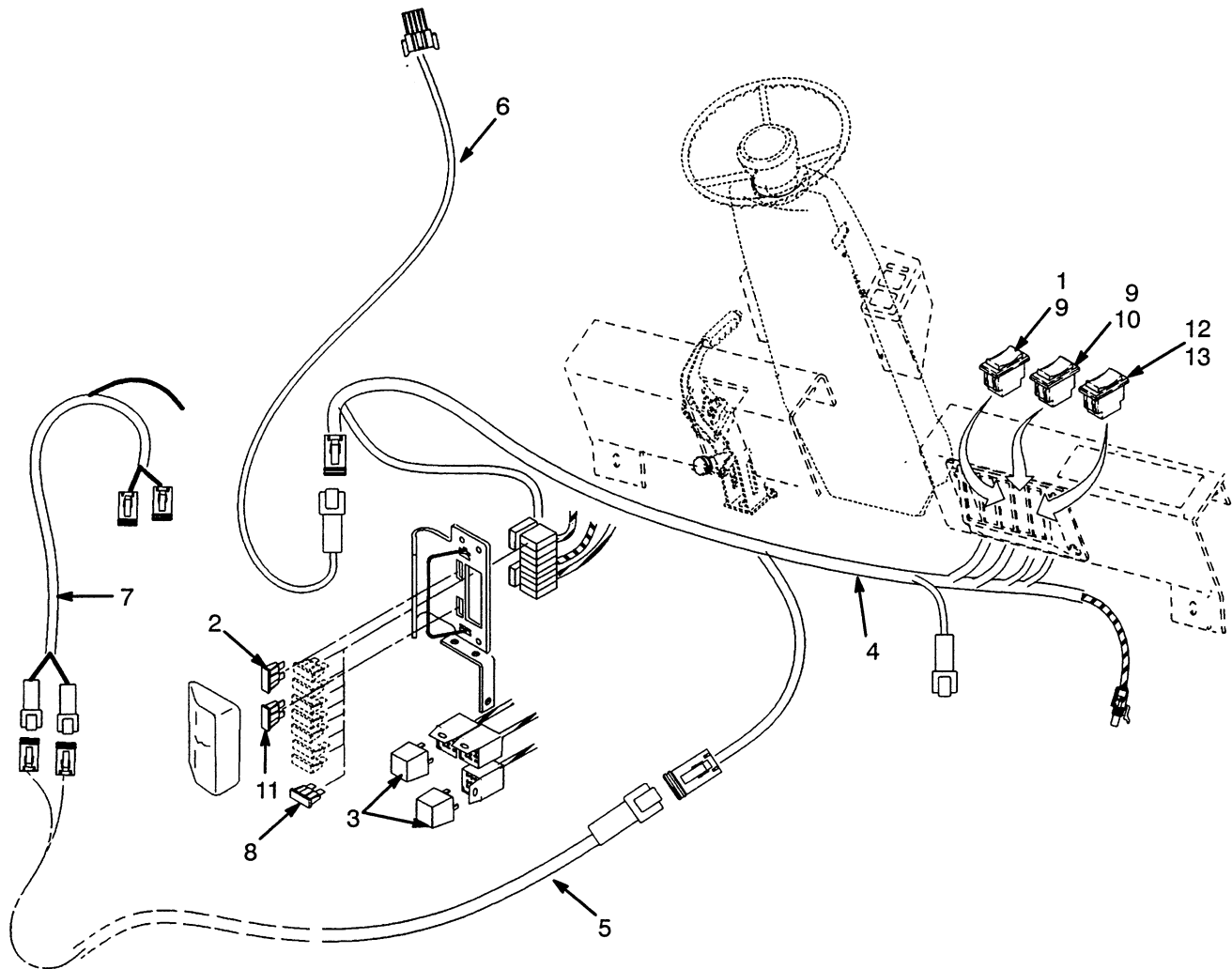
See  
dimensions  
above.



NOTE: DIMENSIONS IN MILLIMETERS

# HARNESS ROUTING (Figure 242)

## CAB

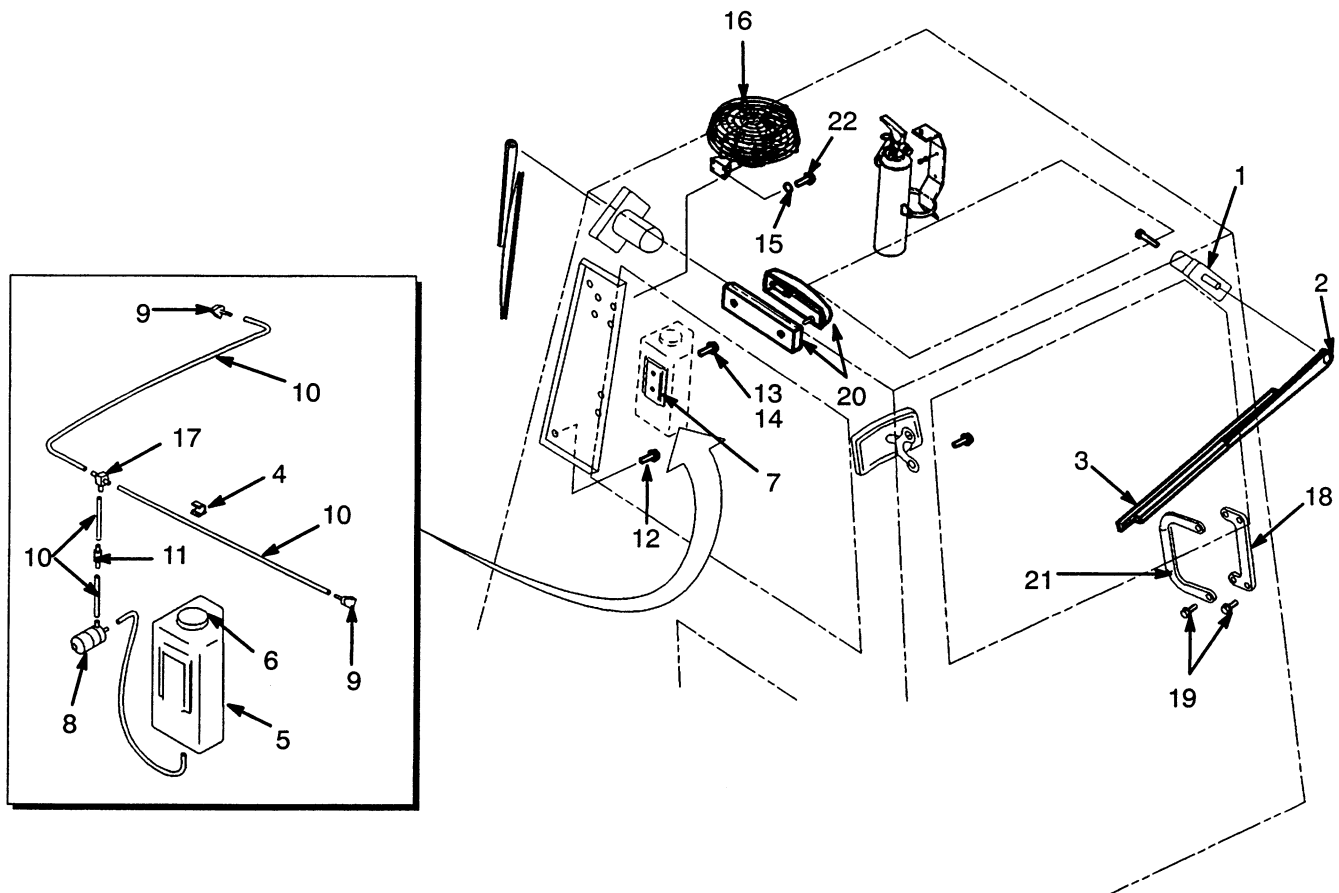


**KEY:**

A: Kit-Front Panel  
B: Kit-Rear Panel  
C: Kit-Heater

REF	PART NO.	NAME OF PART	QTY			REF	PART NO.	NAME OF PART	QTY		
			A	B	C				A	B	C
	1356407	Kit-Front Panel .....	1	..	..	6	.....	Wiper Wire Harness .....	1	..	..
	1356408	Kit-Rear Panel .....	1	..	..			Figure 246			
	1356414	Kit-Heater .....	..	1	..	7	.....	Cab Wire Harness .....	1	..	..
1	1301675	Cover .....	1	..	..			Figure 247			
2	1300134	Fuse (25 Amp) .....	1	..	..	8	1320669	Fuse (30 Amp) .....	1	..	..
3	1301233	Relay .....	1	..	..	9	1301150	Switch .....	1	1	..
4	.....	Cowl Harness .....	1	..	..	10	1366607	Lens .....	1	..	..
		Figure 248				11	1310630	Fuse (15 Amp) .....	1	..	..
5	.....	Chassis Wire Harness .....	1	..	..	12	1331245	Switch .....	..	1	..
		Figure 249				13	1366633	Lens .....	..	1	..

## ACCESSORIES (Figure 243) CAB



**ACCESSORIES**

**CAB**

**KEY:**

**A: Dome Light Kit 895978**

**B: Fan Assy Kit 895977**

**C: Front Panel Kit 895972 And Rear Panel Kit 895973**

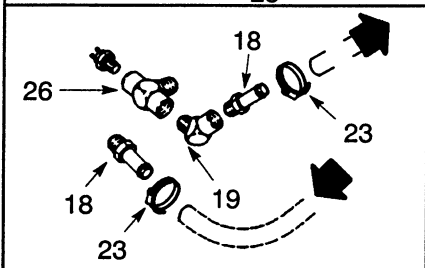
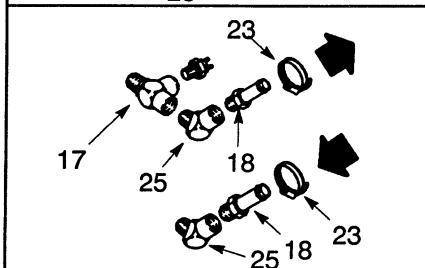
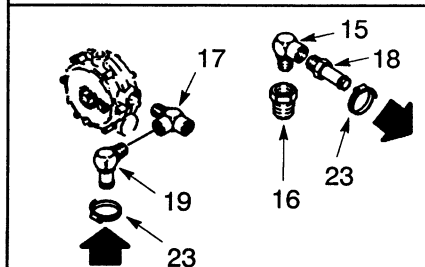
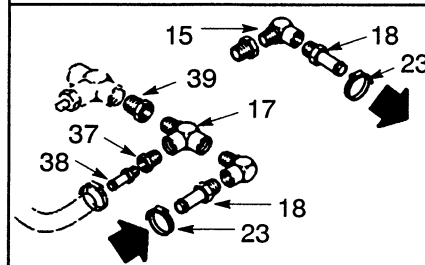
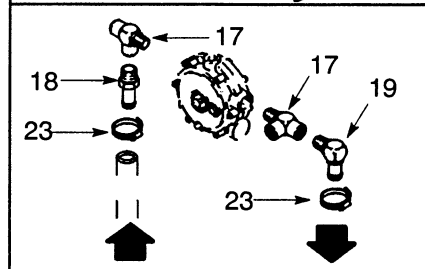
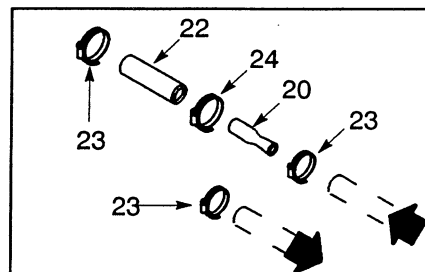
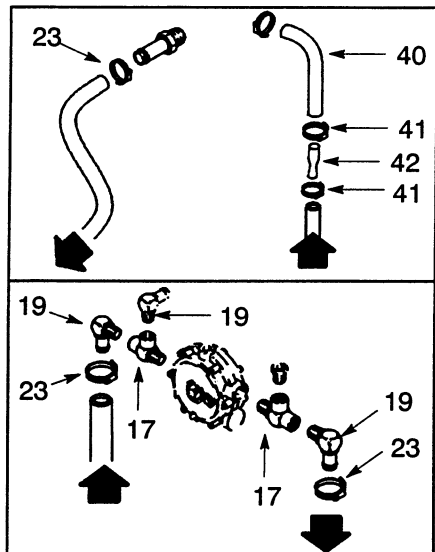
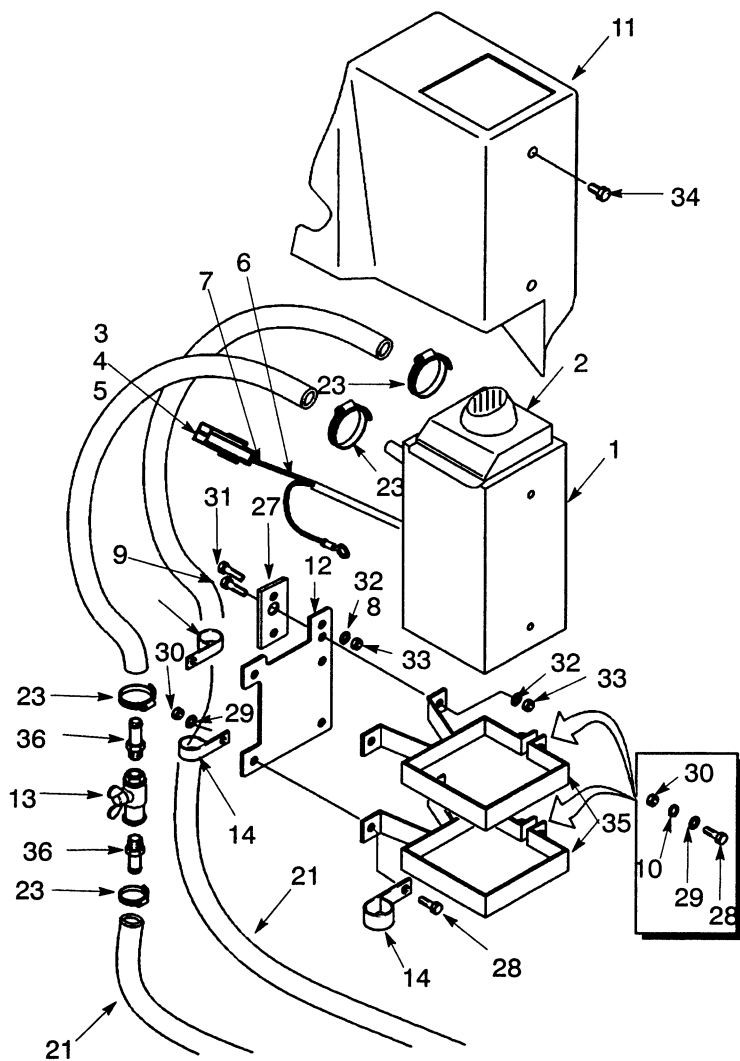
**D: Washer Kit 895976**

REF	PART NO.	NAME OF PART	QTY			
			A	B	C	D
1	1365282	Wiper Motor .....	..	1	..	
2	1365283	Wiper Arm .....	..	1	..	
3	1365284	Wiper Blade .....	..	1	..	
4	1366603	Clamp .....	..	..	10	
5	1365286	Reservoir .....	..	..	1	
6	1368137	Cap .....	..	..	1	
7	1365287	Bracket .....	..	..	1	
8	1365288	Pump .....	..	..	1	
9	1365289	Windshield Washer .....	..	..	1	
10	1366601	Hose .....	..	..	1	
11	1365299	Check Valve .....	..	..	1	
12	1368140	Bolt .....	2	..	..	..

REF	PART NO.	NAME OF PART	QTY			
			A	B	C	D
13	320156	Washer .....	..	..	2	
14	1368953	Screw .....	2	..	..	2
15	292679	Washer .....	4	4	..	..
16	1359562	Fan .....	..	1	..	..
17	1366600	Fitting .....	..	..	1	
18	1366623	Bracket .....	..	1	..	
19	1366624	Screw .....	2	..	4	..
20	1366622	Inner Lighting Kit .....	1	..	..	..
20	878141	Bracket .....	1	..	..	..
21	1343647	Handle (Standard) .....	..	2	..	..
22	878163	Screw .....	4	..	..	..

## HEATER (Figure 244)

### CAB

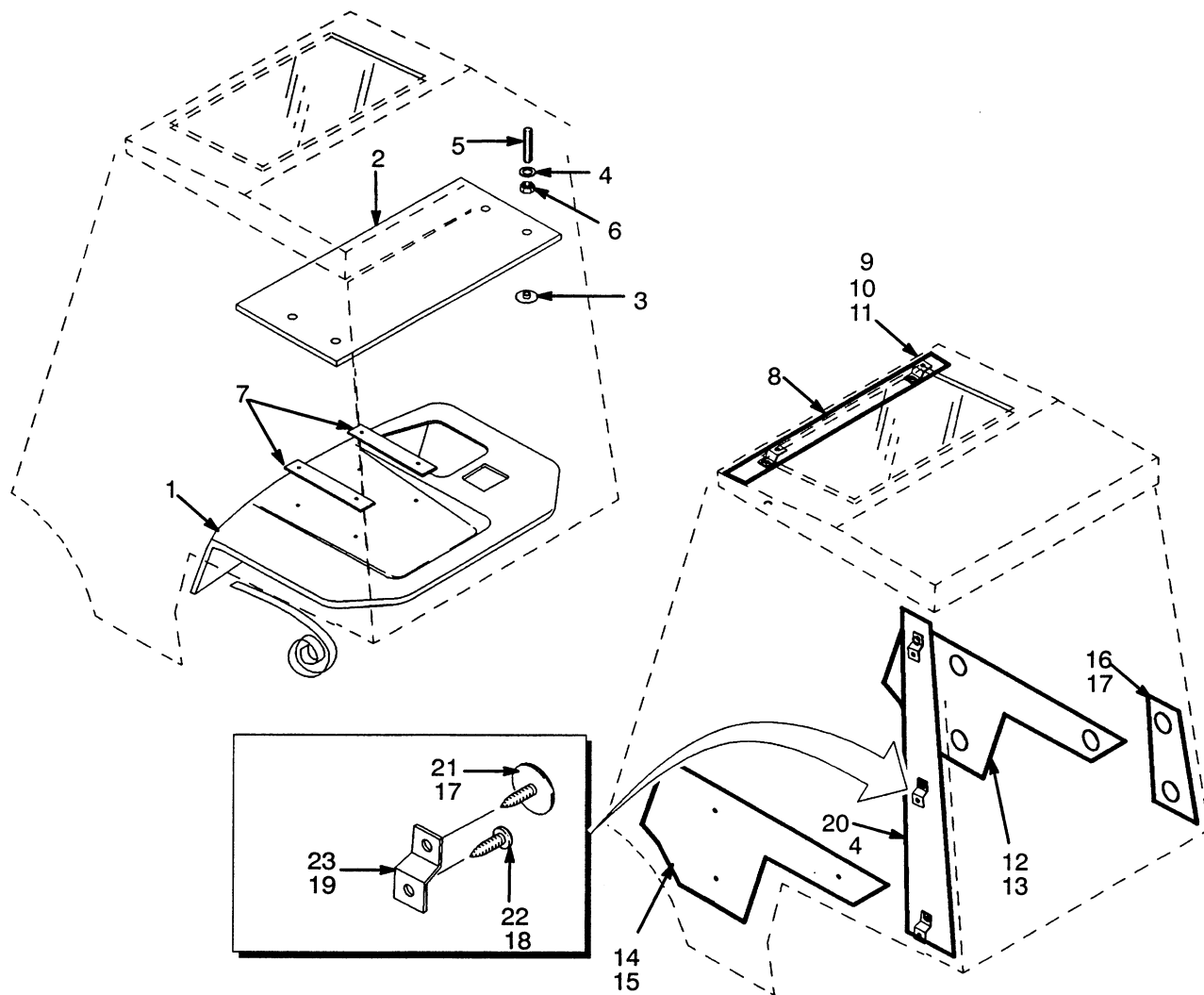


**HEATER  
CAB**

REF	PART NO.	NAME OF PART	QTY	REF	PART NO.	NAME OF PART	QTY
	1359565	Heater Assembly .....	1	22	258344	Hose .....	1
1	1359564	Heater .....	1	23	166857	Clamp .....	6
2	1369429	Defroster .....	1	24	130845	Clamp .....	2
3	1330298	Connector .....	1	25	12823	Fitting .....	2
4	1334999	Terminal Pin .....	1	26	17665	Fitting .....	1
5	1329147	Cable Seal .....	1	27	1368952	Plate .....	1
6	16906	Conduit .....	AR	28	287816	Capscrew .....	4
7	175944	Heat Shrink .....	1	29	320156	Washer .....	4
8	320157	Washer .....	1	30	136687	Nut .....	7
9	292502	Capscrew .....	1	31	132861	Capscrew .....	1
10	292680	Washer .....	7	32	292682	Washer .....	1
11	1359523	Cover .....	1	33	239503	Nut .....	1
12	1368136	Plate .....	1	34	1368968	Capscrew .....	2
13	1368110	Valve .....	1	35	1368967	Bracket .....	2
14	181089	Clamp .....	3	36	1368955	Fitting .....	2
15	12837	Fitting .....	1	37	63108	Fitting .....	1
16	12817	Fitting .....	1	38	17217	Fitting .....	1
17	154452	Fitting .....	2	39	16116	Fitting .....	1
18	102919	Fitting .....	2	40	1376666	Hose .....	1
19	102898	Fitting .....	1	41	130845	Clamp .....	2
20	1368105	Adapter .....	1	42	1368105	Adapter .....	1
21	114310	Hose .....	2				



## CAB SOUND LINERS (Figure 245)



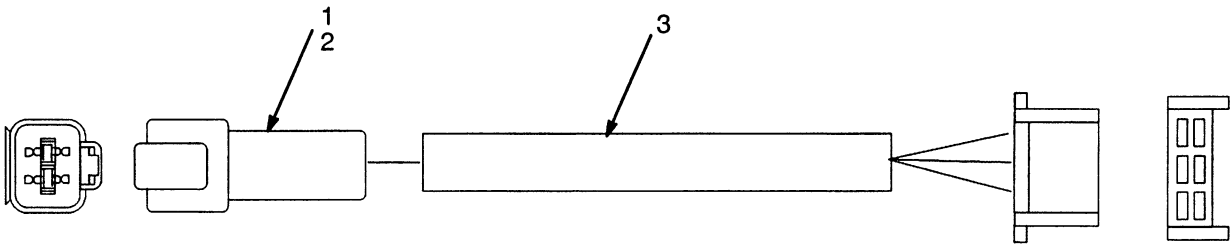
### KEY:

A: Kit-Sound Liner

B: Kit-Low Noise

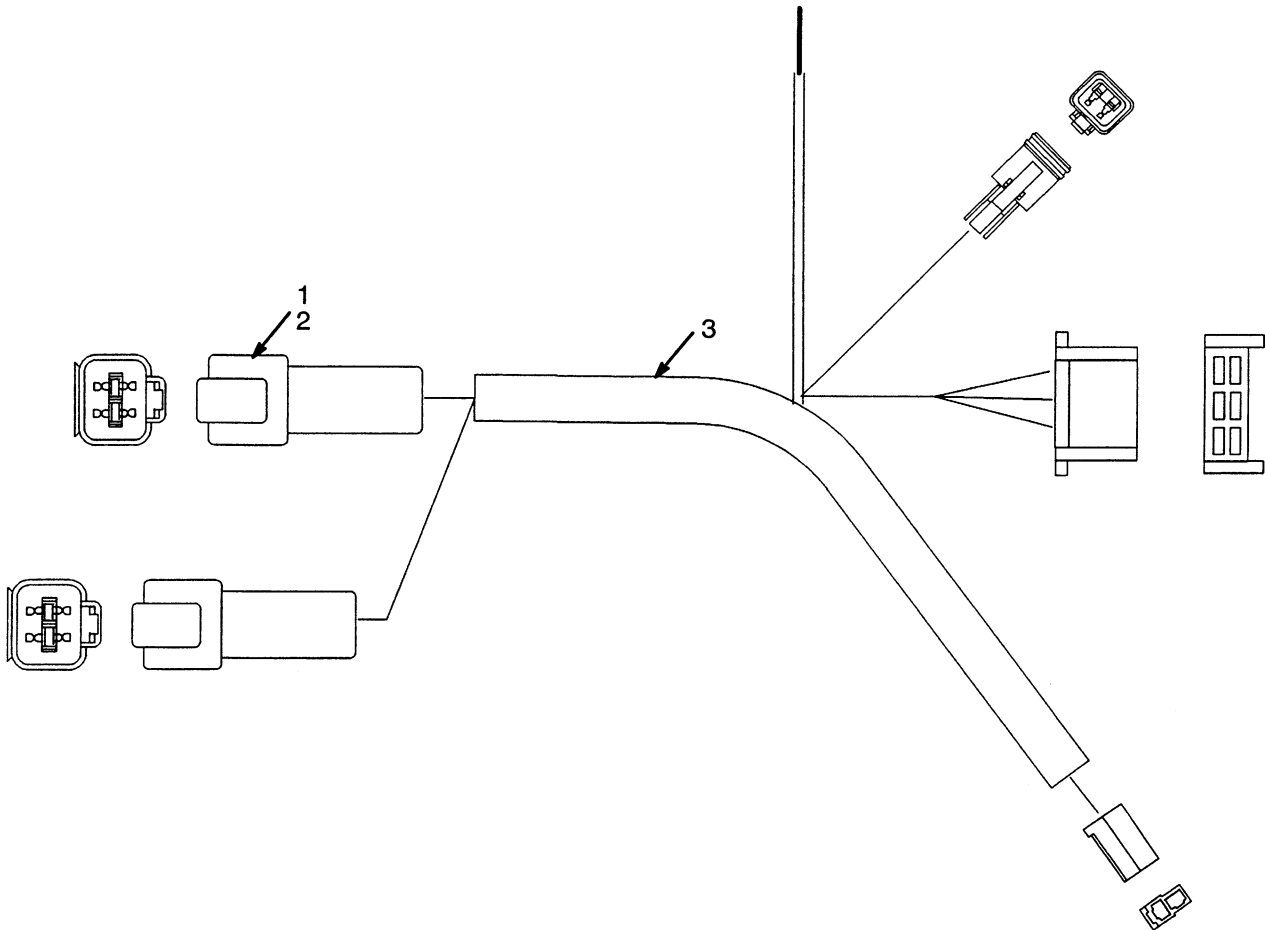
REF	PART NO.	NAME OF PART	QTY		REF	PART NO.	NAME OF PART	QTY	
			A	B				A	B
	1356413	Kit-Sound Liner .....	1	..	12	1368146	Door Cover (RH) .....	..	1
	1365900	Kit-Low Noise .....	..	1	13	1368100	Clip .....	..	3
1	1368144	Cover .....	1	..	14	1368147	Door Cover (LH) .....	..	1
2	1359524	Headliner .....	1	..	15	1368100	Clip .....	..	3
3	1361087	Button .....	4	..	16	1368148	Cover .....	..	1
4	292681	Washer .....	4	..	17	1368100	Clip .....	..	2
5	1366628	Stud .....	4	..	18	1365294	Screw .....	..	2
6	316835	Nut .....	4	..	19	1370942	Bracket .....	..	2
7	1368964	Plate .....	2	..	20	1368149	Cover .....	..	1
8	1368145	Cover .....	..	1	21	1368100	Clip .....	..	3
9	1368100	Clip .....	..	2	22	1365294	Screw .....	..	3
10	1368956	Bracket .....	..	2	23	1370942	Bracket .....	..	3
11	1365294	Screw .....	..	2					

**HARNESS (Figure 246)**  
**WIPER**



REF	PART NO.	NAME OF PART	QTY	REF	PART NO.	NAME OF PART	QTY
	1359559	Harness .....	1	2	1330416	Lock .....	1
1	1330411	Connector .....	1	3	1359496	Wire Harness .....	1

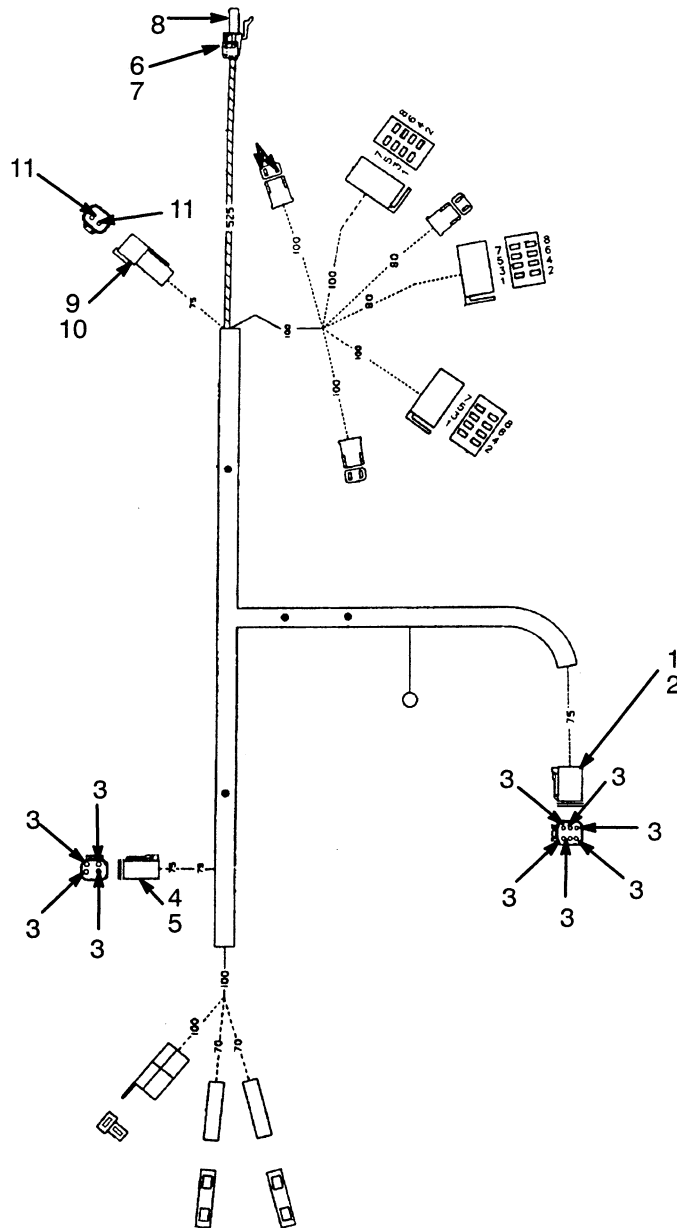
## HARNESS (Figure 247) CAB (REAR)



REF	PART NO.	NAME OF PART	QTY	REF	PART NO.	NAME OF PART	QTY
	1359560	Harness .....	1	2	1330416	Lock .....	1
1	1330411	Connector .....	1	3	1359497	Wire Harness .....	1

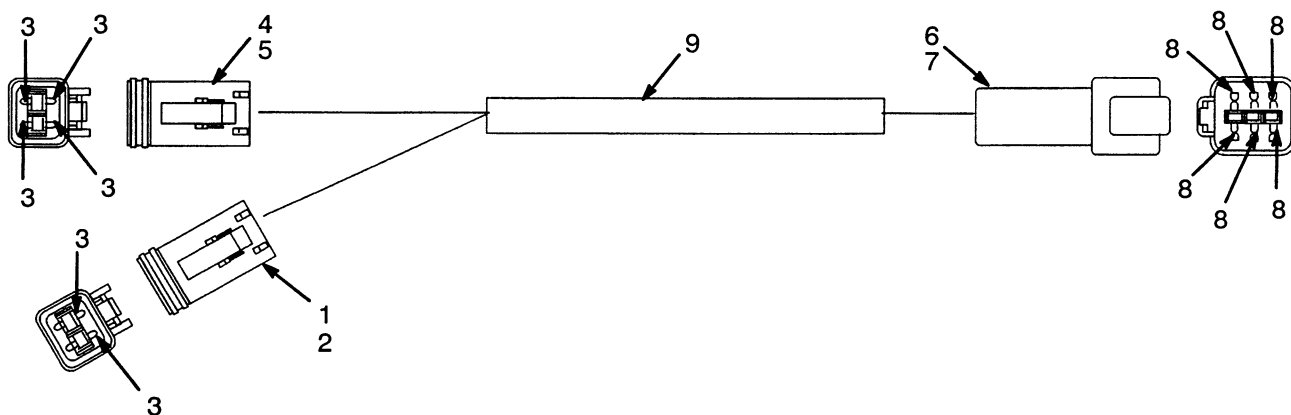
## HARNESS (Figure 248)

### CAB (COWL)



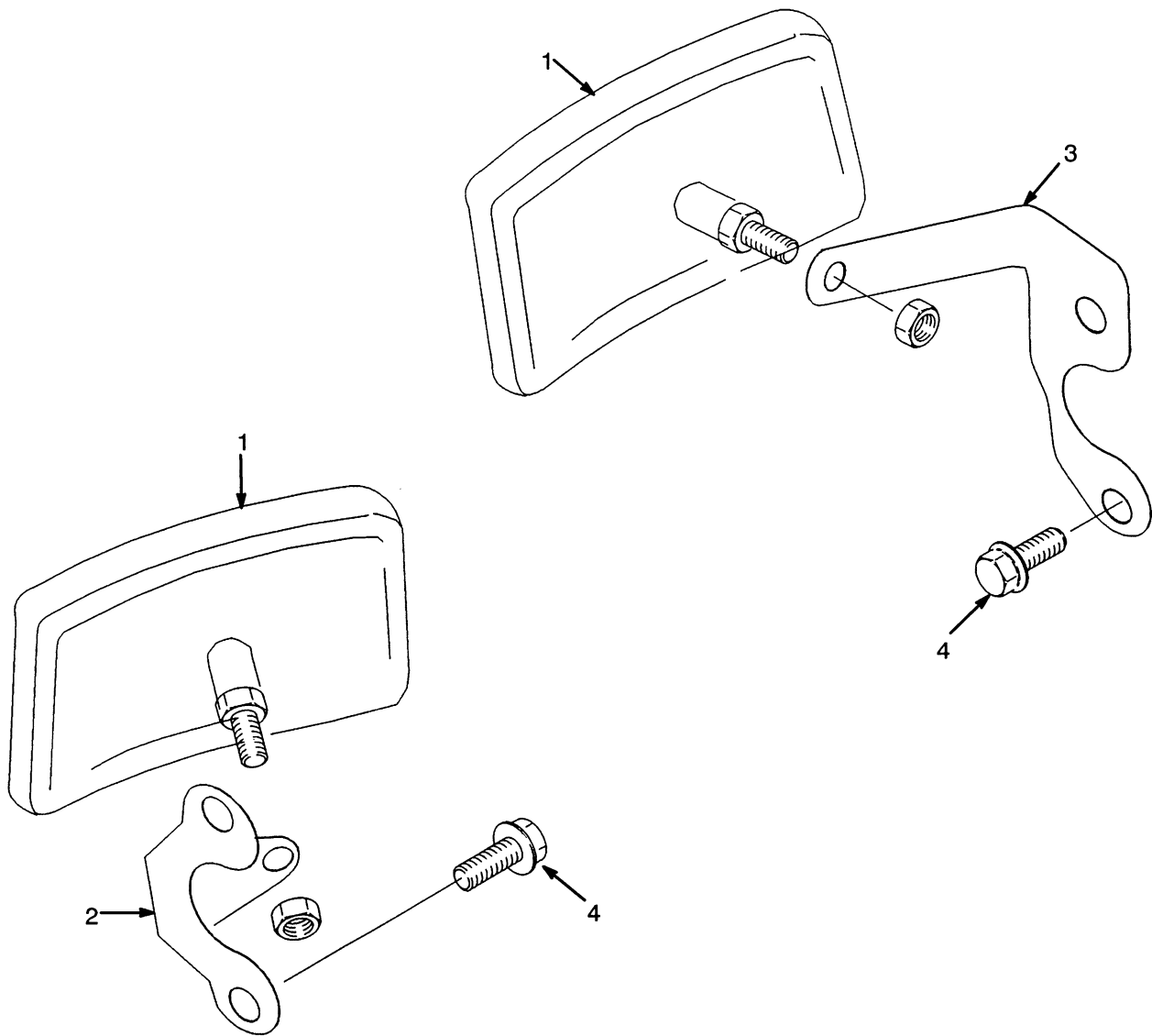
REF	PART NO.	NAME OF PART	QTY	REF	PART NO.	NAME OF PART	QTY
	1455987	Harness .....	1	6	1330299	Connector .....	1
1	1330422	Connector .....	1	7	1329147	Seal .....	1
2	1330428	Lock .....	1	8	1336173	Socket .....	1
3	1330438	Socket .....	10	9	1330409	Connector .....	1
4	1330421	Connector .....	1	10	1330414	Lock .....	1
5	1330427	Lock .....	1	11	1330437	Pin .....	2

## HARNESS-REAR (Figure 249) CHASSIS



REF	PART NO.	NAME OF PART	QTY	REF	PART NO.	NAME OF PART	QTY
	1361143	Harness .....	1	5	1330427	Lock .....	1
1	1330419	Connector .....	1	6	1330412	Connector .....	1
2	1330424	Lock .....	1	7	1330417	Lock .....	1
3	1330438	Socket .....	6	8	1330437	Pin .....	6
4	1330421	Connector .....	1	9	381919	Wire Covering .....	AR

**MIRROR (Figure 250)**



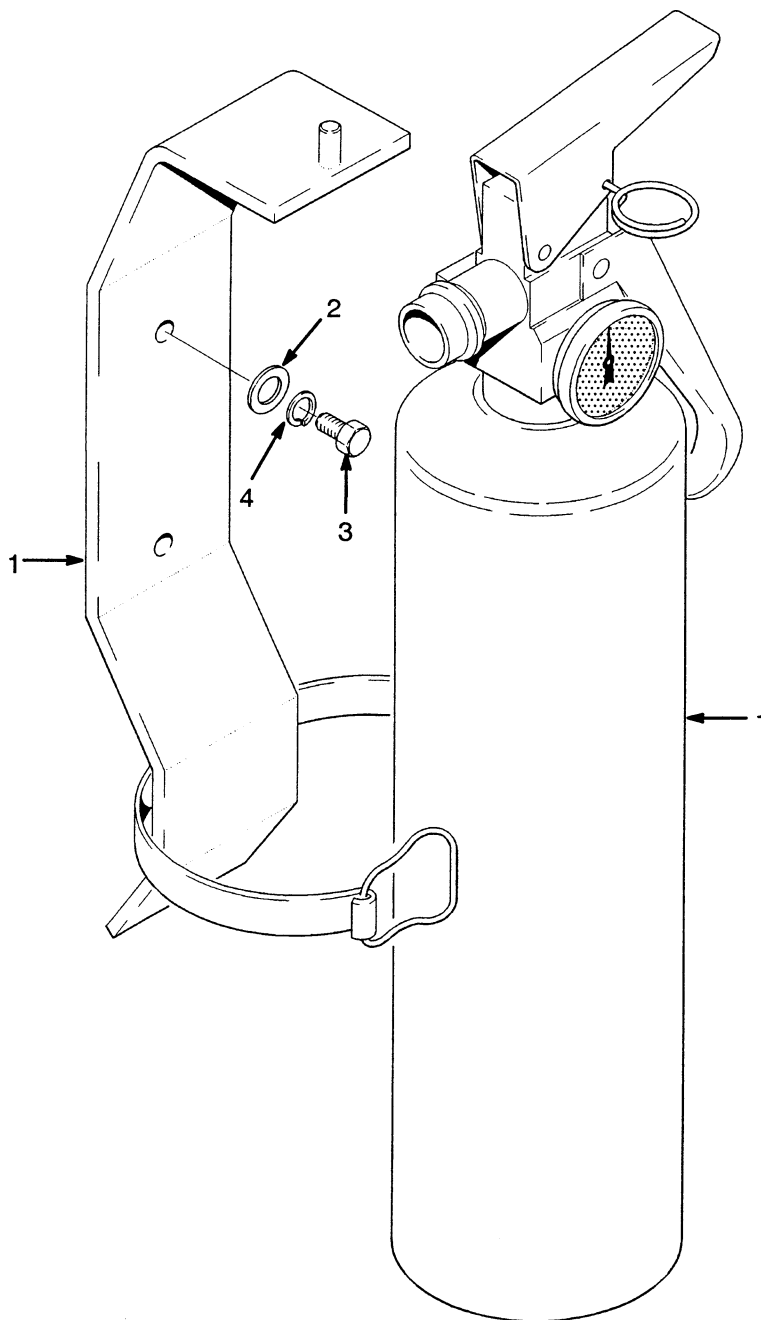
**KEY:**

**A: With Cab**

**B: Without Cab**

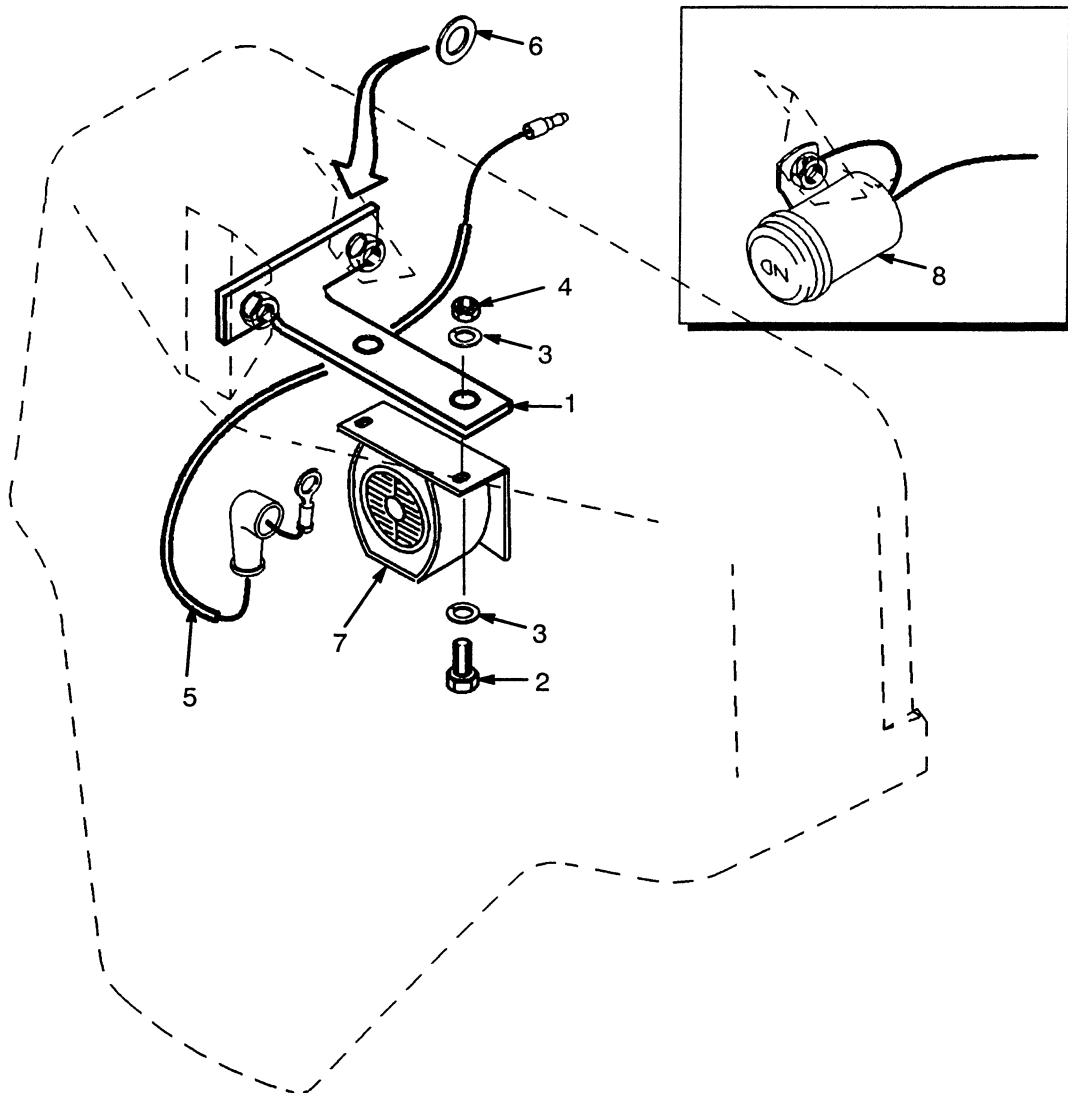
REF	PART NO.	NAME OF PART	QTY		REF	PART NO.	NAME OF PART	QTY	
			A	B				A	B
1	1301286	Mirror Assembly .....	2	2	3	1361561	Bracket .....	1	..
2	1356520	Bracket .....	1	2	4	316678	Rolling Screw .....	4	4

## FIRE EXTINGUISHER (Figure 251)



REF	PART NO.	NAME OF PART	QTY	REF	PART NO.	NAME OF PART	QTY
1	146540	Fire Extinguisher & Bracket	1	3	296508	Screw	2
2	292679	Washer	2	4	320155	Washer	2

# **AUDIBLE ALARMS (Figure 252)**



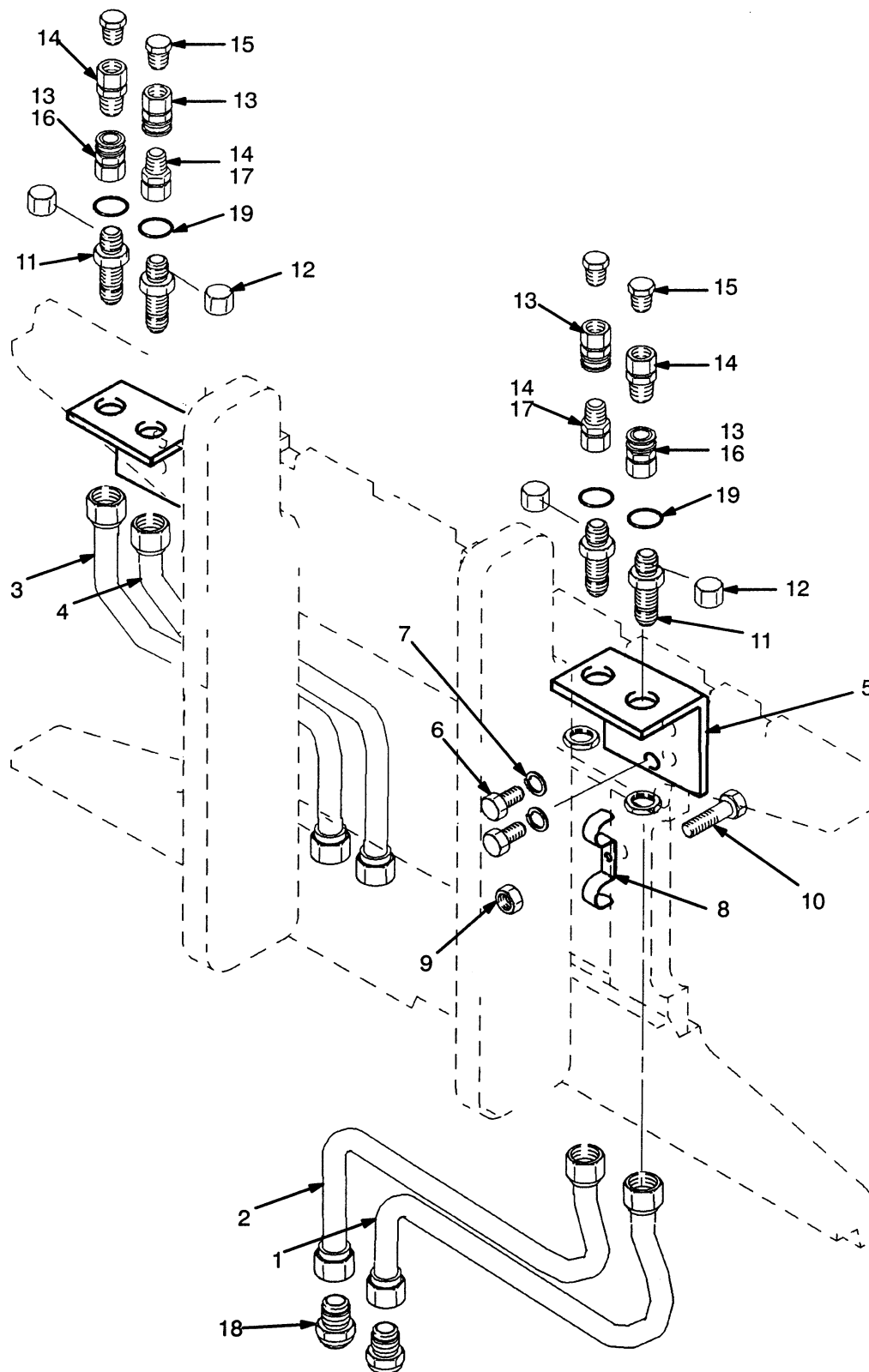
REF	PART NO.	NAME OF PART	QTY
1 a	1361126	Bracket .....	1
2 a	292500	Capscrew .....	2
3 a	296417	Washer .....	4
4 a	302399	Nut .....	2
5 a	1361552	Wire Harness .....	1
6 a	320158	Washer .....	AR
7	1350733	Audible Alarm (87 dbA) .....	1

REF	PART NO.	NAME OF PART	QTY
7	1350734	Audible Alarm (97 dbA) .....	1
7	1350735	Audible Alarm (102 dbA) .....	1
7	1350736	Audible Alarm (107 dbA) .....	1
7	1339947	Audible Alarm (82-102 dbA) .....	1
8	1343892	Audible Alarm (90 dbA) .....	1

a Included in Kit 1375597



## AUXILIARY TUBE EXTENSION KIT (Figure 253) TWO STAGE LIMITED FREE-LIFT




## AUXILIARY TUBE EXTENSION KIT

### TWO STAGE LIMITED FREE-LIFT

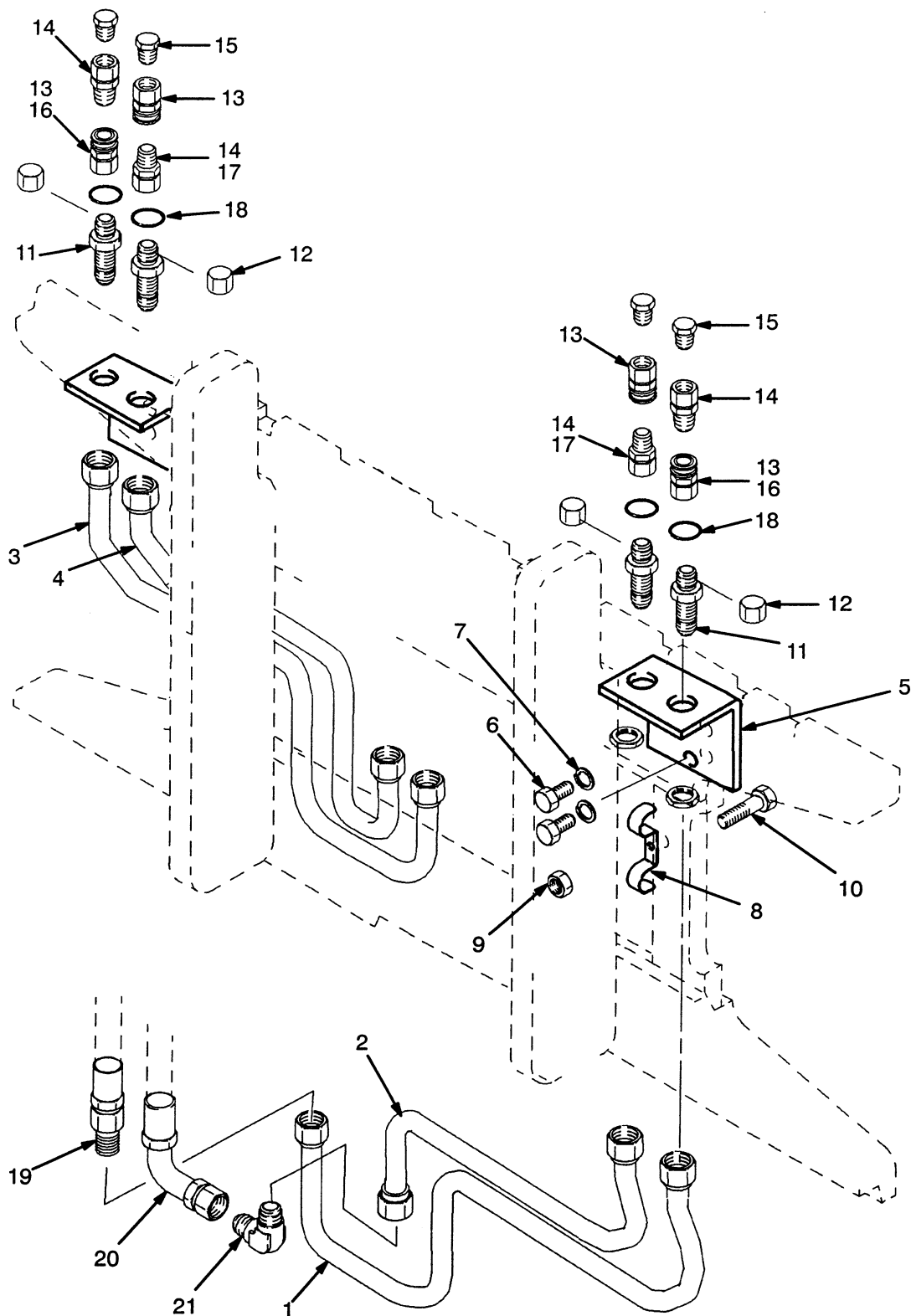
MAST	KIT NO.	THIRD FUNCTION		FOURTH FUNCTION	
		Ref 1 Tube	Ref 2 Tube	Ref 3 Tube	Ref 4 Tube
B507	1362416 d1377959	1370489 d1377935	1370488 d1377936	----	----
	1362417	----	----	1370490	1370491
B562	1362418 d1377960	1370493 d1377937	1370492 d1377938	----	----
	1362419	----	----	1370495	1370494

REF	PART NO.	NAME OF PART	QTY
1 a	....	Tube .....	1
2 a	....	Tube .....	1
3 a	....	Tube .....	1
4 a	....	Tube .....	1
5 b	1370479	Bracket .....	1
5 d	1377925	Bracket .....	1
6 b	136681	Capscrew .....	2
7 b	292681	Lockwasher .....	2
8 b	114369	Clamp .....	1
8 d	1377928	Clamp .....	1
9 b	313828	Nut .....	1
10 b	296484	Capscrew .....	1
11 b	16447	Fitting .....	2
11 d	16448	Fitting .....	2

REF	PART NO.	NAME OF PART	QTY
12 b	16693	Cap .....	2
12 d	16925	Cap .....	2
13 c	1362422	Socket .....	2
14 c	1362423	Nipple .....	2
15 c	16933	Plug .....	2
16 c	229348	Cap .....	1
17 c	229349	Plug .....	1
18 d	1377945	Fitting .....	2
19	16483	O-Ring .....	2

- a  Table Above
- b Included In Kit
- c Included In Quick Disconnect Kit 1362426
- d With Rotator

## AUXILIARY TUBE EXTENSION KIT (Figure 254) TWO STAGE AND THREE STAGE FULL FREE-LIFT



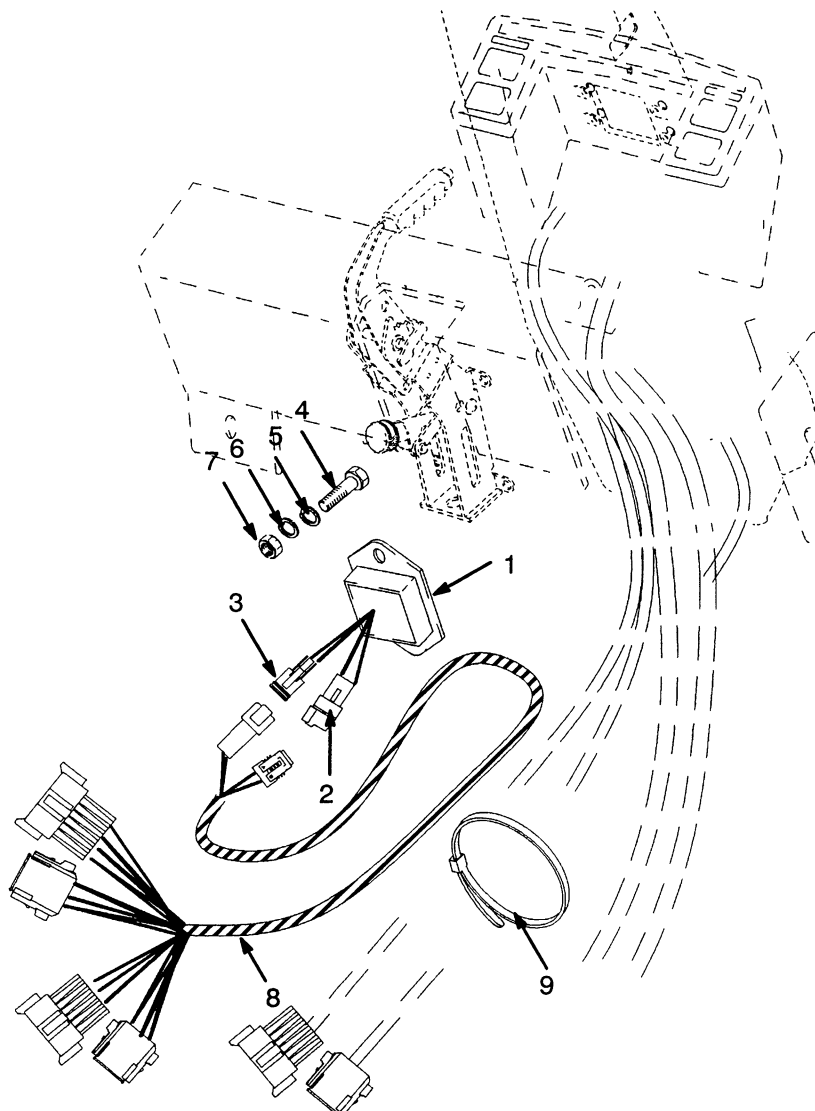
## AUXILIARY TUBE EXTENSION KIT

### TWO STAGE AND THREE STAGE FULL FREE-LIFT

MAST	KIT NO.	THIRD FUNCTION		FOURTH FUNCTION	
		Ref 1 Tube	Ref 2 Tube	Ref 3 Tube	Ref 4 Tube
B508 B509	1362406 d <sub>1</sub> 1377955	1370483 d <sub>1</sub> 1377926	1370482 d <sub>1</sub> 1377929	----	----
	1362407	----	----	1370481	1370480
B563 B564	1362408 d <sub>1</sub> 1377956	1370486 d <sub>1</sub> 1377927	1370484 d <sub>1</sub> 1377930	----	----
	1362409	----	----	1370487	1370485

REF	PART NO.	NAME OF PART	QTY	REF	PART NO.	NAME OF PART	QTY
1	a	.... Tube .....	1	14	c	1362423 Nipple .....	2
2	a	.... Tube .....	1	15	c	16933 Plug .....	2
3	a	.... Tube .....	1	16	c	229348 Cap .....	1
4	a	.... Tube .....	1	17	c	229349 Plug .....	1
5	b	1370479 Bracket .....	1	18		16483 O-Ring .....	2
5	d	1377925 Bracket .....	1	19	de	3009159 Fitting .....	1
6	b	136681 Capscrew .....	2	19	df	316879 Fitting .....	1
7	b	292681 Lockwasher .....	2	20	de	1377949 Fitting .....	1
8	b	114369 Clamp .....	1	20	df	1377948 Fitting .....	1
8	d	1377928 Clamp .....	1	21	d	14480 Fitting .....	1
9	b	313828 Nut .....	1		a	☞ Table	
10	b	296484 Capscrew .....	1		b	Included In Kit	
11	b	16447 Fitting .....	2		c	Included In Quick Disconnect Kit 1362426	
11	d	16448 Fitting .....	2		d	With Rotator	
12	b	16693 Cap .....	2		e	Parker Hose	
12	d	16925 Cap .....	2		f	Synflex Hose	
13	c	1362422 Socket .....	2				

## POWERTRAIN PROTECTION SYSTEM (Figure 255)

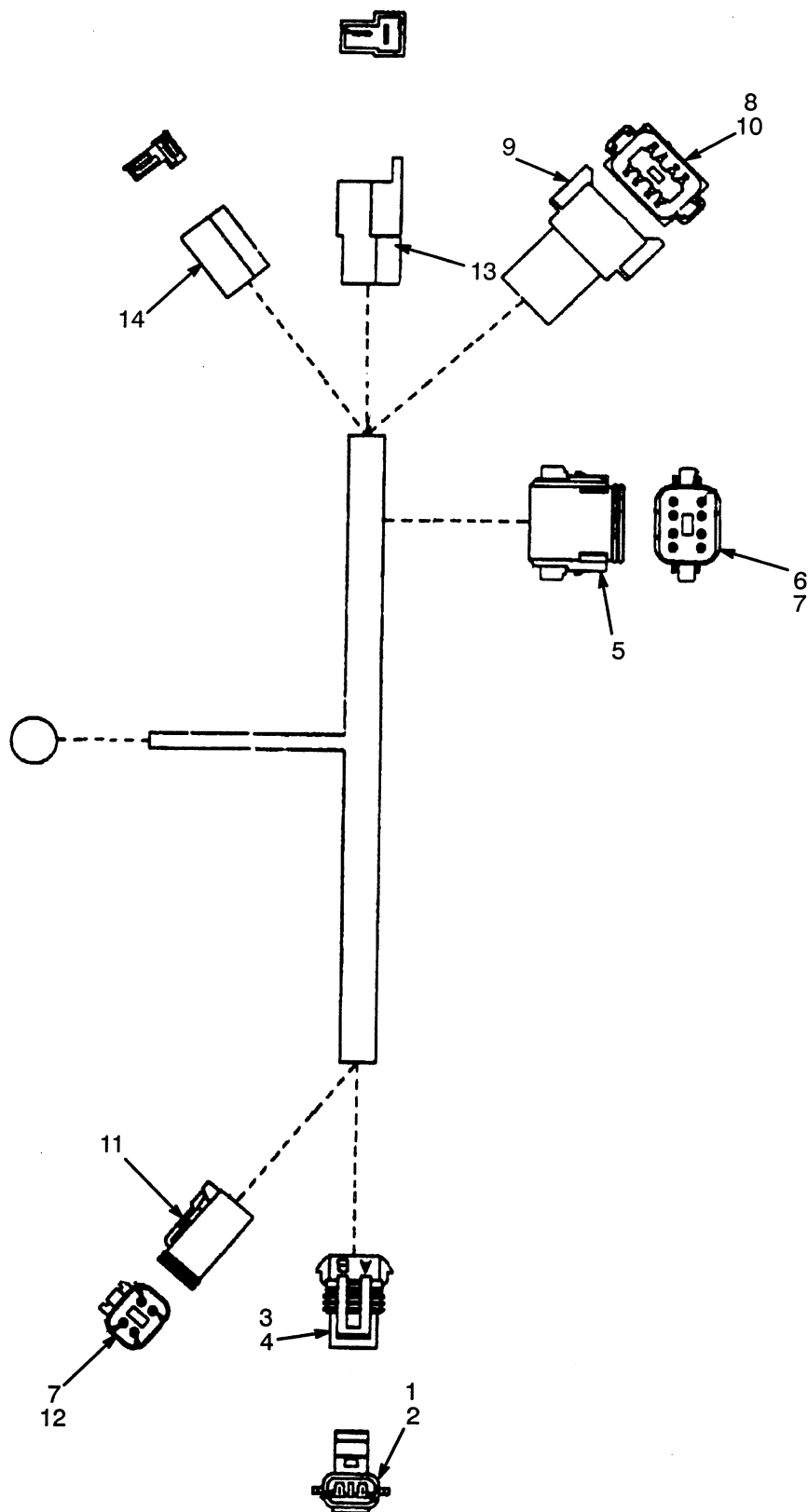


REF	PART NO.	NAME OF PART	QTY
1	<sup>a</sup> 1375822	Powertrain Protection Module ...	1
2	1330411	Connector .....	1
3	1329150	Connector .....	1
4	<sup>a</sup> 302248	Capscrew .....	2
5	<sup>a</sup> 320155	Washer .....	2
6	<sup>a</sup> 292679	Washer .....	2

REF	PART NO.	NAME OF PART	QTY
7	<sup>a</sup> 292668	Nut .....	2
8	<sup>a</sup> .....	Harness-Powertrain Protection ..	1
		Figure 256	
9	1352606	Strap Clamp .....	AR
a	Included in Kit 1388305		

## This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

## HARNESS (Figure 256) POWERTRAIN PROTECTION



**HARNESS  
POWERTRAIN PROTECTION**

REF	PART NO.	NAME OF PART	QTY	REF	PART NO.	NAME OF PART	QTY
	1388304	Harness-Powertrain Protection ..	1	8	1330437	Pin .....	6
1	1329147	Seal .....	2	9	1330413	Connector .....	1
2	1329148	Terminal .....	2	10	1330418	Lock .....	1
3	1329152	Connector .....	1	11	1330421	Connector .....	1
4	1329151	Lock .....	1	12	1330427	Lock .....	1
5	1330423	Connector .....	1	13	181047	Connector .....	1
6	1330429	Lock .....	1	14	181048	Connector .....	1
7	1330438	Socket .....	10				



## This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

**NUMERICAL INDEX**

PART NO	PAGE	REF NO	PART NO	PAGE	REF NO	PART NO	PAGE	REF NO	PART NO	PAGE	REF NO	PART NO	PAGE	REF NO
126	168	14		97	19	15152	113	64		172	10	16186	211	36
142	172	17	14386	207	39		145	43		309	15		213	30
	317	18		53	10		197	8		317	19	16187	201	67
7882	40	26	14500	299	39		202	97	15223	377	9		205	79
	47	17	14503	197	9		205	31	15225	311	29		208	71
	55	20	14506	303	4		207	35	15227	311	39	16192	131	2
11276	305	4	14592	299	28		271	24	15236	337	14		133	2
12445	163	1	14603	353	15		277	23		361	3	16374	55	31
12490	141	30		409	17	15154	111	40		362	3	16379	53	37
	145	9	14604	287	23		170	21		394	3	16480	343	28
	147	30		289	23		55	26		426	3		345	28
12822	111	4	14691	325	33		55	40		427	3	16481	299	19
12824	115	18	14692	430	22	15155	170	23	15290	305	29		325	37
	117	54	14761	153	18		202	94	15303	305	22	16482	287	30
12838	320	9	14899	320	8		205	34	15314	287	35		289	30
12840	131	54	15001	5	26		207	59		289	35		299	28
12844	131	41	15002	165	5		253	12	15347	287	29		299	32
12891	287	40		168	27		263	43		289	29	16483	287	14
	289	40		170	20		45	24		325	36		289	14
	358	3		171	6		53	22	15351	113	23		299	21
	359	3		171	6	15156	125	10		115	17	16484	287	31
	423	3		197	10		133	49		117	53		289	31
	424	3	15004	170	25		153	4		125	2		299	5
12894	300	1	15006	117	57		201	49		127	16		303	3
	301	1		121	14		205	49	15483	111	37		339	38
12898	5	44	15025	317	7		207	22		129	23		339	39
	5	44	15032	287	12		309	23		287	13		339	45
12928	53	33		289	12		53	16		289	13		341	38
12947	125	25		299	31	15157	49	19	15880	386	11		341	39
12949	343	22	15034	111	13	15163	251	10		390	11		341	45
	343	36	15039	251	8	15175	9	39		418	11		343	12
	343	52		263	10	15200	168	15		422	11		345	12
	345	22	15049	251	5		171	11	15920	117	56	16485	325	50
	345	36		317	33		172	5		121	16		325	51
	345	52	15052	202	96		339	10	15923	55	18		325	51
13668	205	7		205	32		341	10	15931	5	41		334	5
13957	311	37		207	36		353	4		5	46		335	5
14303	129	7		271	14		358	9	15932	299	50		339	46
	131	26		277	22		359	10	15942	35	16		341	46
	133	30	15055	343	3		377	8		78	19		353	20
	135	7		345	3		379	23	15962	41	12		353	22
	137	7		55	52		381	23	15964	129	30		377	25
14349	117	16	15056	125	11		391	10		131	56		377	26
	320	10		53	36		392	10		133	27		379	5
14358	113	9	15134	125	9		411	23		137	8		381	5
	115	34		133	48		413	23	16009	305	10		409	15
	117	26		309	24		423	9	16134	111	38		409	16
	119	39		40	8		424	10	16151	211	34		409	22
	125	19		51	6	15212	165	2		305	23		411	10
	127	7	15136	253	7		168	2	16155	125	26		411	3
14385	63	10		257	7		170	27	16167	197	49		413	10
	81	27	15151	251	4		171	2		201	67		413	3

## NUMERICAL INDEX

PART NO	PAGE	REF NO	PART NO	PAGE	REF NO	PART NO	PAGE	REF NO	PART NO	PAGE	REF NO	PART NO	PAGE	REF NO
16486	353	15	16865	173	14		183	52		379	30		392	3
	377	20		181	46	18496	202	93		379	30		405	8
	409	17		183	53		207	47		381	30		407	3
16487	287	23	16882	353	27		254	42		381	30	58903	311	35
	289	23		377	29		9	38		411	25	59229	357	11
16541	339	39		409	19	18497	253	34		411	25		383	10
	341	39	16897	317	8	18498	263	42		413	25		414	7
16556	299	19	16906	237	34		9	38		413	25		415	7
	325	37	16923	325	30	18500	202	84	39348	355	7	59583	337	9
16558	325	31		339	47		211	15		357	7	60949	311	6
16560	325	50		341	47		211	39		383	13	63108	113	47
	325	51	16982	299	26		211	47		386	13		115	30
	409	15		353	17		211	51		390	13		117	30
16568	303	3		377	22		213	34		418	13		119	30
16578	353	22		409	18		213	44		422	13		119	6
	377	25	16987	339	37		253	2	39352	311	12	63899	129	27
	409	16		341	37		257	2	39714	305	28		131	53
16598	153	3	17059	339	36		35	20	43207	291	25		133	66
16703	145	42		341	36	18508	53	14		293	25		135	39
16704	198	90	17167	303	3	18515	170	24	43307	291	26		137	45
16706	343	13	17176	119	21		202	95		293	26	68968	20	2
	343	27	17197	339	45		205	33	44308	300	2		21	7
	343	45		341	45		208	60		301	2		57	2
	345	13	17215	113	12		253	35	44542	311	19		58	2
	345	27		115	31		257	14	45733	295	23	69029	311	28
	345	45		117	29		263	41		297	23	69392	197	50
16708	197	6		119	29		9	27	46388	337	7		201	68
16709	55	39	17216	197	48	18518	253	32	53162	173	14	69815	113	48
16712	113	63		201	66	18521	45	23		181	44	78010	325	26
16719	163	4		205	78	18530	254	40		183	51	78584	295	22
16743	317	32		208	70	18535	201	47	54123	53	34		297	22
16746	131	55	17217	113	13		205	82	55434	361	11	78826	291	30
16751	141	20		115	32		208	64		394	11	80952	300	9
	147	20		117	42	18538	53	19		426	11		301	9
16788	153	17		119	7	18546	263	35	55580	261	21	85766	133	53
16805	133	47	17309	303	5	18727	9	26		263	17	85785	127	29
	53	15	17314	201	68	18824	309	33		265	26	85885	305	7
16814	53	40		205	80		325	56	57568	173	9	86377	253	22
16815	125	8		208	72	21420	305	24	57664	343	24	86510	181	19
	309	22	17315	303	6	26758	320	16		343	42		183	19
16825	53	21	17324	125	4		322	13		343	56		317	31
16836	170	22	17343	131	42	30273	311	21		343	9	89220	133	12
	205	73		135	33	30492	248	13		345	24		207	9
	207	58		137	32	30915	202	74		345	42	90263	386	11
16849	163	20	17635	379	28	32907	117	45		345	56		390	11
16863	111	12		381	28	33657	305	5		345	9		418	11
	113	19	17636	131	23	37752	351	10	58901	349	8		422	11
	115	35	17756	339	46		351	8		351	3	92861	355	11
	117	22		341	46		351	9		371	8		383	10
	119	43	17789	202	75		373			373	8	97497	277	11
	125	43	18082	271	41		373			375	3	97498	277	10
	127	1	18419	181	45		373	12		391	3	97499	277	9

**NUMERICAL INDEX**

PART NO	PAGE	REF NO	PART NO	PAGE	REF NO	PART NO	PAGE	REF NO	PART NO	PAGE	REF NO	PART NO	PAGE	REF NO
97577	295	11		325	8		371	4		121	5		23	14
	297	11		61	11		373	4		153	22		287	36
97999	111	3	127644	55	48		405	4		197	22		289	36
98525	311	16	128408	211	21	132131	55	14		201	7		295	19
101625	201	22	128835	263	16	132473	122	10		202	83		297	19
	201	36		265	27		141	1		205	52		309	2
	205	22	128838	263	3		145	2		207	27		317	24
	325	34	128852	263	4		147	1		211	14		411	9
101809	111	5		265	28	132861	254	45		213	8		413	9
104506	349	3	129358	353			339	32		263	27		61	14
	371	3	129361	377			341	32		282	10	137154	305	11
	373	3	129387	349	7	133469	55	19		55	17	137282	287	15
	405	3		351	4	133651	23	24	136692	111	11		289	15
109919	153	10		371	7	134436	287	30		113	40		295	37
110174	325	28		373	7		289	30		172	18		297	37
110322	325	32		375	4		299	32		172	26	137283	295	4
112989	119	22		391	4	134675	361	12		23	15		297	4
	119	26		392	4		394	12		287	56	137852	113	18
	151	9		405	7		426	12		289	56		115	22
	153	33		407	4	134812	271	44		309	4		117	17
	153	39	129563	131	13	135158	295	25		317	22		117	20
	153	6		183	25		297	25		320	4		119	17
	155	9		205	72	135588	353			339	3		125	34
113011	115	25		207	23		377			341	3		127	11
	117	21	129995	131	38	135634	377			58	14		135	31
	119	40	130825	313	4	135685	173	2		5	39		137	30
	127	26	130845	113	14	136516	198	91		61	15		168	17
114312	155	33		115	21		207	9	136703	287	20		171	4
	173	17		115	29	136681	111	27		289	20		183	36
	208	83		117	18		113	55		317	13		251	12
	233	56		119	13		131	8	136704	197	3		325	35
119074	137	44		119	34		133	7		299	33	138075	455	30
119236	23	27		119	37		135	22		353	13	138333	202	74
119388	202	80		125	29		137	21		365	2	138573	181	20
	205	63		127	8		155	17		379	8		183	20
	207	44		153	15		155	22		381	8	138880	129	28
120857	151	20		155	20		168	5		397	21		131	53
121335	253	22		67	26		170	13	136749	119	10		133	66
122175	197	23	131358	353	7		170	15		133	55		135	39
	201	45		358	7		181	32		198	79		137	45
	205	62		359	8		183	32		253	29	139743	263	36
	207	17		377	11		211	3		309	9	140660	303	7
124297	321	7		379	17		211	3		321	6	145172	49	5
125305	115	28		381	17		278	5		325	11	145173	49	7
	117	40		391	8		339	59		339	21	145176	55	33
	119	36		392	8		339	59		339	21	145177	55	34
125847	151	3		409	3		341	53		341	21	145639	253	13
	153	28		411	32		341	53		341	21		253	33
	155	3		413	32		379	14		397	7		9	37
126358	263	25		423	7		381	14		430	8	145641	55	45
127045	23	11		424	8	136687	113	37		5	30	145831	151	18
	23	11	131716	349	4		119	4	136985	172	24	145949	55	49

## NUMERICAL INDEX

PART NO	REF PAGE	REF NO	PART NO	REF PAGE	REF NO	PART NO	REF PAGE	REF NO	PART NO	REF PAGE	REF NO	PART NO	REF PAGE	REF NO
145978	305	6	160361	49	11	169942	47	16	180177	379		189338	263	33
147294	111	6	160377	49	26	169964	47	6		411		189595	353	20
147972	414	6	160602	47	7	169965	47	6	180217	411			377	26
	415	6	160773	129	29	169966	47	6	181045	273	32		409	22
147973	313	3		131	52	169967	47	6	181046	271	43	189609	47	14
	386	10		133	65	170554	257	13		273	33	189614	49	33
	390	10	161003	353	25	170658	11	22	181763	117	15	189756	281	6
	418	10		377	5	171098	325	27	181766	299	30	190380	257	1
	422	10		379	20	171350	353	29	182332	379		190383	111	43
148827	47	18		381	20		377	31	182343	377			197	52
148962	211	46		411	20		379	38		379			197	59
	35	6		413	20		381	38		411			201	35
149805	47	8	161059	379			411	34	184761	377	20		202	70
149814	47	7		411			413	34	186061	313	11		205	35
149816	47	7	161252	170	18	173247	23	31		337	12		207	12
149819	55	25	161617	171	12		61	10		355	15		208	67
149846	55	37	162836	165	1	174413	19	16		357	15		208	74
149847	55	38		168	1	175323	117	50		383	16		211	40
149857	49	9		170	26		121	13		386	17		211	45
149858	49	9		171	1	175347	113	22		390	17		211	50
149864	49	2	163970	311	22		115	36		414	12		213	33
149867	49	10	164017	55	5		117	24		415	13		213	43
149868	49	4	164022	47	10		119	42		418	17		251	15
149888	49	28	164023	47	21		127	15		422	17		253	3
149889	49	18	164050	49	39		127	32	187388	355	8		257	3
149898	55	21	164488	133	20	176451	131	4		357	8	190887	386	12
149929	53	8	164639	311	20		133	4		383	7		390	12
149934	55	50	164840	386	10	176452	325	43		386	7		414	11
149976	55	8		390	10	176640	181	29		390	7		415	11
149977	49	13		418	10		183	29		418	7		418	12
149978	49	37		422	10		253	30		422	7		422	12
153931	211	2	166857	131	46		263	38	188516	343	16	191845	53	23
	213	2		151	21		287	19		343	31	193008	115	24
153932	213	11		153	25		289	19		343	48		117	27
153933	197	39		153	37		321	5		345	16		119	32
154065	11	12		155	24		339	26		345	31		151	25
154066	11	12	168389	325	27		339	26		345	48	193772	113	5
154067	11	12	168718	113	15		341	26	188518	343	18		287	48
154355	379	6		115	33		341	26		343	33		289	48
	381	6		117	28	176910	211	21		343	54	195769	20	3
	411	11		119	31	177461	35	9		345	18		57	3
	413	11		119	8	177521	283	9		345	33	195771	117	14
154375	337	6		127	9	177563	55	36		345	54		121	6
156194	311	15		129	16	177894	197	38	188519	343	19		133	42
156195	311	14		135	16		211	1		343	34		141	37
157554	181	21		137	29	178119	113	57		343	50		145	45
157704	135	40		151	26		411	6		345	19	196297	111	2
	137	46		23	2		413	6		345	34	196395	181	59
159942	55	7		61	2	179920	263	34		345	50		183	38
159973	47	20	169718	55	47	180029	379		188534	343	2	196898	19	14
159974	51	15	169719	55	46	180057	353			345	2		263	32
159977	55	3	169752	47	6		379		188643	53	38	197066	251	9

**NUMERICAL INDEX**

PART NO	PAGE	REF NO	PART NO	PAGE	REF NO	PART NO	PAGE	REF NO	PART NO	PAGE	REF NO	PART NO	PAGE	REF NO
197067	117	58		141	2	208483	263	26	221769	35	13		381	5
	129	12		147	2	209417	317	35	221771	295	12	239503	105	10
	135	12	204781	145	4	210183	313	8		297	12		111	26
	137	13	204787	122	16	214121	141	28		360	3		113	43
	181	22		125	5		147	28		393	3		119	12
	197	53		141	15	214364	377	19		425	3		127	33
	197	7		145	22		398	27	221773	295	15		129	18
	202	71		147	15		409	11		297	15		131	7
	202	98	204790	122	15	214444	353		222029	9	36		133	63
	205	30		141	36	215211	349	5	222381	339	38		133	8
	208	63		145	21		371	5		341	38		135	18
	208	75		147	36		373	5	222413	325	51		137	18
	208	81	204796	141	27		405	5	222443	287	14		168	7
	277	24	204797	141	26	216877	361	9		289	14		172	8
197345	379			147	26		362	9		299	21		197	29
	411		204824	141	24		394	9	222477	325	17		201	29
197853	19	15		145	31		426	9	222480	135	23		201	61
	263	31		147	24		427	9		137	22		202	89
198401	263	9	204829	164	7	217407	131	39	223095	265	9		205	29
198410	263	8	204830	163	6	218585	253	11	223389d	353			207	15
198675	131	12		164	9	218599	295	14	224570	305	16		208	79
	168	4	204831	163	9		297	14	224571	305	15		20	17
198956	253	16		164	18	220283	122	7	225673	273	2		211	18
	254	50	204835	163	16		141	9	226576	273	8		213	17
199524	343	11	204858	122	4		145	14	226578	273	25		253	25
	345	11		141	7		147	9	226582	273	5		253	25
199563	5	27		145	13	220289	251	3	226583	273	24		254	49
199566	55	51		147	7	220314	251	7	226584	273	21		269	20
199851	313	6	205120	343	14	220318	198	93	226589	271	11		278	8
200659	299	26		343	29	220426	181	43	226986	311	30		303	10
201797	115	27		343	46		183	50	227131	281	7		321	2
	117	38		345	14	220434	173	16	227155	5	41		325	12
	119	20		345	29	220714	125	7		5	45		339	24
	119	33		345	46	220932	173	3	230419	287	49		339	24
	127	30	205121	343	15	220961	111	41		289	49		339	63
201800	113	11		343	30	221420	55	43		295	39		341	24
	125	17		343	47	221453	55	41		297	39		341	24
	127	23		345	15	221455	253	15	231020	351	8		341	57
	131	29		345	30		53	6		373	12		5	35
201808	127	38		345	47	221482	253	11		379	30		61	16
	133	54	205122	343	20	221487	253	11		381	30		73	8
202003	263	21		343	35	221544	35	3		411	25		7	9
203010	165	4		343	51	221550	295	35		413	25		90	5
	168	26		345	20	221703	111	39	231082	379			93	17
	171	5		345	35	221705	253	13		411		241074	141	29
203071	313	9		345	51		254	41	234038	295	17		147	29
204223	201	50	205123	343	23	221733	339	22		297	17	243190	313	5
	205	50		343	37		339	61	235691	287	31	244903	47	19
	207	13		343	55		341	22		289	31	244909	49	2
	253	4		345	23		341	55		299	5	244910	49	2
	257	4		345	37		9	22	237947	5	10	244911	49	2
204780	122	9		345	55	221767	35	10	238637	379	5	244922	49	22

## NUMERICAL INDEX

PART NO	REF PAGE	REF NO	PART NO	REF PAGE	REF NO	PART NO	REF PAGE	REF NO	PART NO	REF PAGE	REF NO	PART NO	REF PAGE	REF NO
244925	49	23		125	32	280644	5	25		265	1		297	27
244927	55	21		162		281844	51	1	290369	265	15	292521	172	2
244933	55	9	261379	263	37	286788	287	16	290370	265	16	292523	172	2
245202	49	32		35	17		289	16	290508	265	8	292524	287	9
246108	117	16		78	20		295	38	290509	263	23		289	9
246942	271	38	262680	183	55		297	38		265	22	292527	379	33
246943	271	2	263750	49	6	287472	287	32	290734	151	4		381	33
246944	271	17	263839	49	30		289	32		153	29		411	28
246994	353		263958	162		287503	253	19		155	4		413	28
248127	271	3	263962	162	6		253	31	290735	151	5	292528	287	52
248128	271	7	264159	289	51	287805	77	7		153	30		289	52
	273	7		53	18	287816	113	35		155	5		305	30
248129	271	8	264892	305	8		119	3	292500	121	3		3	2
248134	271	31	264893	305	9		125	31		153	21		78	4
248135	271	4	264973	311	10		168	33		155	30	292529	379	15
248137	271	19	265509	47	12		170	9		165	8		381	15
248141	271	22	265522	37	29		213	42		181	38		411	16
248143	271	16	267530	202	76	287817	198	94		181	47	292530	379	15
248145	271	36	268356	263	15		287	44		183	43		381	15
248146	271	37		265	14		289	44		183	54		413	16
248147	271	1	268573	43	5	287837	379	13		197	61	292532	353	9
248148	271	5	271949	49	25		381	13		201	4		377	14
248149	271	21	272155	181	21		411	33		205	4		409	6
249289	311	13	273338	125	40		413	33		55	13	292533	317	26
250371	122	1		197	15	287844	205	8	292501	168	29		365	11
	141	10		201	51	287851	137	39		181	27		379	10
	145	17		205	51		172	23		183	27		381	10
	147	10		207	14		253	23		197	19		397	16
251099	197	63		299	51		295	8		207	34	292534	397	19
251979	20	20	273775	151	12		297	8		213	7	292535	3	13
	305	21		181	25	287854	111	18		3	27	292536	3	13
	35	19		197	32		151	10	292502	365	14	292588	305	33
	58	19		201	63		153	35	292503	201	8	292607	7	
252927	111	22		211	28		155	10	292508	253	30	292612	7	
254686	49	21		213	40		172	23		299	34	292613	7	
255073	271	10		254	46		21	3		365	3		7	
	271	34	274232	37	19		317	23	292509	299	35	292616	7	
257241	197	45	274247	51	3	287860	155	26		69	15	292620	305	31
	202	86	274648	265	3		287	54	292513	35	6	292654	181	31
	205	42	275496	198	92		287	54	292515	165	8		183	31
	207	50		202	78		289	54		254	44	292667	198	85
	211	16		205	68		317	25		5	37		278	14
	213	14		207	45		320	2	292516	287	7	292668	197	28
	257	11		211	27		339	1		289	7		201	21
257913	355	5		211	27		341	1	292517	20	4		205	21
	357	5		213	3		398	29		57	4		207	7
	383	5	275497	198	92	288394	115	38		58	3		211	10
	386	5	275498	208	82		117	33	292519	287	8	292678	23	18
	390	5		221	15		127	2		287	8		278	13
	418	5	275499	197	41	289344	47	4		289	8		61	21
	422	5	278510	325	26	290300	265	13		289	8	292679	165	7
258321	117	23	279737	197	62	290303	263	12		295	27		168	28

**NUMERICAL INDEX**

PART NO	PAGE	REF NO	PART NO	PAGE	REF NO	PART NO	PAGE	REF NO	PART NO	PAGE	REF NO	PART NO	PAGE	REF NO
	171	7		205	28		23	12		426	7		35	10
	197	27		207	10		253	18		427	7		35	13
	201	20		208	78		274	19	293657	297	35		377	15
	205	20		20	16		277	26	293658	18	1		409	7
	207	6		211	17		287	10		19	1	296423	360	3
	211	44		211	17		289	10		56	1		393	3
	65	20		213	16		295	20	293659	361	2		3	4
292680	113	36		253	17		297	20		362	2		425	3
	119	5		269	21		309	3		394	2	296424	35	10
	121	4		275	1		317	21		426	2	296426	19	18
	153	23		278	7		320	3		427	2	296472	309	17
	155	31		287	50		325	23	293686	19	17	297531	355	6
	165	9		289	50		339	2		311	38		357	6
	181	37		295	9		341	2	293743	113	53		383	6
	181	48		297	9		35	7		117	11		386	6
	183	42		303	9		411	4		119	14		390	6
	197	21		309	10		413	4		121	9		418	6
	201	6		317	14		56	14		127	21		422	6
	202	85		321	4		57	11	293762	309	35	297649	353	23
	205	43		325	13		58	13	293779	309	36		377	4
	205	6		339	23		5	38	293780	125	16		379	19
	207	26		339	23		61	12	293795	397	20		381	19
	211	4		339	66		65	8	293796	430	12		411	19
	213	10		341	23		78	7	293922	337	10		413	19
	263	28		341	23	292683	111	16	295649	386	4	298874	113	8
	287	45		341	60		287	53		390	4	300738	311	26
	289	45		5	34		289	53		414	10	300751	311	33
	35	7		61	17		305	2		415	10	300752	311	34
	55	16		65	4		361	8		418	4	300758	305	21
	65	1		68	8		362	8		422	4	300765	311	8
292681	105	11		73	3		365	10	295802	273	18	300766	311	9
	111	25		75	2		379	25	296001	430	5	300767	311	11
	113	56		75	7		381	25	296010	309	11	300794	305	1
	119	11		77	1		394	8	296021	125	15	300800	305	14
	127	34		77	14		3	3	296028	411	7	300801	305	17
	129	17		77	5		411	29		413	7	300932	18	2
	131	6		7	11		413	29	296128	172	8		19	2
	133	6		90	6		426	8	296130	111	17		56	2
	133	62		93	11		427	8		317	27	300937	18	10
	135	17		93	18	292687	305	32	296151	181	24		19	9
	137	17	292682	111	10	292689	7	8	296205	282	6		311	4
	155	18		113	42	293611	339	57	296215	198	78		353	12
	155	23		151	11	293612	339	56	296418	127	35		360	4
	168	6		153	36	293614	35	14		135	36		377	17
	170	14		155	11	293630	18	18		137	38		379	16
	172	27		155	27	293631	18	9		211	43		381	16
	181	60		165	9		277	25		269	22		393	4
	183	35		172	18	293648	311	2		299	11		3	5
	197	5		172	27		35	9		35	15		409	9
	201	28		18	15	293650	361	7	296420	78	14		411	18
	201	43		20	14		362	7	296421	53	39		413	18
	202	88		21	4		394	7	296422	353	10		425	4



## NUMERICAL INDEX

PART NO	PAGE	REF NO	PART NO	PAGE	REF NO	PART NO	PAGE	REF NO	PART NO	PAGE	REF NO	PART NO	PAGE	REF NO
	56	10	304406	295	3		341	25	320156	168	16		137	49
300939	111	9		297	3		353	26		168	32		170	7
	18	8	304526	379	34		365	5		170	10		172	9
	19	8		381	34		377	24		172	4		181	30
	3	15		411	30		379	9		181	28		183	30
	56	8		413	30		381	9		181	49		197	4
300982	337	15	304619	47	2		397	8		183	28		201	27
	361	4	304620	47	2		409	12		183	56		202	87
	362	4	305080	151	2		430	9		197	20		205	47
	394	4		153	27	314539	49	8		201	5		207	53
	426	4		155	2	314766	217	5		205	45		208	77
	427	4	305100	263	30	316132	181	17		205	5		211	9
301190	47	3	305371	35	9		183	17		207	25		213	15
301195	49	34	306774	47	1		317	30		213	9		253	24
302027	198	84	308624	55	29	316306	353	17		263	29		254	48
302144	351	11	308980	339	12		377	22		309	32		320	15
	373	9		341	12		409	18		325	55		339	22
302235	23	16	308995	57	13	316678	283	4		5	29		339	65
	61	19	309062	386	15	316825	113	54	320157	111	24		341	22
302244	181	10		390	15		117	12		129	3		341	59
	183	10		418	15		119	15		131	20		398	28
302245	181	55		422	15		121	10		133	24		5	32
	183	39	309109	171	9		127	22		133	61		61	18
	207	30		339	9	316826	111	19		135	3		7	10
302246	201	18		341	9		20	5		137	3	320159	111	20
	205	18	309124	197	44		397	3		151	19		113	41
	207	4		202	82		411	5		153	11		165	10
302250	197	26		205	61		413	5		181	33		172	25
	201	46		207	46		57	5		183	33		20	7
	205	46		211	13		58	4		197	46		21	5
	207	30		213	13	316828	19	19		201	64		23	13
302385	287	6	309153	197	37	316833	181	12		205	66		274	20
	289	6	309740	56	16	316834	339	13		207	16		287	55
	35	8	309831	295	18		341	13		253	16		289	55
	78	3		297	18	316835	339	20		263	39		317	20
302398	282	7	310081	263	1		341	20		278	6		325	24
302399	197	68		265	17	317075	311	24		299	36		411	8
302400	309	12	310085	265	7	317076	311	23		303	8		413	8
	320	14	310088	265	25	317735	391	7		321	3		57	7
	5	31	313022	287	51		392	7		325	6		58	6
302461	379	32		305	25		423	6		339	44		5	40
	381	32		305	3		424	7		339	64		61	13
	411	27	313805	168	30	318375	127	28		341	44		7	13
	413	27		170	11	320154	278	12		341	58	320160	172	11
302462	351	11		183	22		281	20		353	14		398	30
	373	9		365	15	320155	171	10		377	18	320161	311	3
302492	7	4	313828	117	60		181	11		409	10		379	24
303072	141	16		151	17		183	11	320158	117	41		381	24
	145	23		153	9		201	19		117	61		3	14
	147	16		170	6		205	19		129	26		3	14
303109	78	8		254	43		207	5		131	5		411	17
303118	57	12		339	25		309	20		133	5		413	17

**NUMERICAL INDEX**

PART NO	PAGE	REF NO	PART NO	PAGE	REF NO	PART NO	PAGE	REF NO	PART NO	PAGE	REF NO	PART NO	PAGE	REF NO
	78	5		97	14	324154	63	6		95	3	324318	69	19
320165	379	39		99	4	324155	63	2	324261	77	6	324319	101	30
	381	39	323817	63	39		81	26		95	6		69	27
320264	295	26		67	9	324156	63	25	324262	65	8		84	29
	297	26		81	6	324157	63	26		77	4	324321	69	26
320313	377	6		97	7	324161	63	13	324263	77	14	324340	76	4
	379	18	323818	63	18		81	20		95	1	324342	76	7
	381	18		67	7	324163	63	4	324264	71	15	324345	76	6
	411	21		81	8	324164	63	5	324265	71	15	324350	77	13
320901	63	42		83	5	324165	63	32	324266	71	15	324351	63	29
320902	63	43		97	9	324166	67	36	324271	71	5	324352	63	27
320903	63	44		99	5	324167	67	20	324277	71	14	324353	63	28
320910	69	34	323819	67	8		75	6	324278	63	8	324356	106	7
321158	253	27	323820	67	5		93	13		71	1	324361	75	12
321734	49	38	323821	67	6	324169	63	16	324282	78	10	324362	75	13
321792	334	4	323822	67	10	324170	63	21	324284	71	18	324366	75	16
	335	4		83	7	324173	63	22	324285	71	19		93	29
321797	334	3		99	6		78	6	324288	71	11	324369	67	30
	335	3	323823	67	11		97	20	324291	69	3	324370	67	27
322177	263	7		83	9	324200	104	4	324292	101	3	324373	67	29
322784	183	37		99	11		89	2		69	6	324374	67	24
323090	353	11	323824	67	4	324201	104	5		84	3		81	16
	377	16	323864	153	40	324213	78	13	324293	101	4	324375	67	23
	409	8	324125	67	18	324222	71	13		69	5		93	25
323161	353	5		90	9	324225	78	12	324294	101	5	324378	67	21
	358	8	324126	67	18	324228	68	2		69	4	324382	67	19
	359	9		93	16	324230	68	9		84	5	324385	106	6
	377	7	324127	67	18	324233	68	10	324296	69	7		63	41
	379	26	324133	67	34	324234	68	10	324297	69	8	324387	73	1
	381	26	324134	67	38	324235	68	10	324299	69	11	324388	73	2
	391	9	324135	67	37	324236	68	10	324301	69	31	324397	73	9
	392	9	324138	63	39	324237	68	10	324302	69	30	324407	157	13
	411	22	324139	81	13	324238	68	10	324303	69	33	324408	157	9
	413	22		81	4	324239	68	10	324304	69	12	324410	157	8
	423	8		97	13	324240	68	10	324305	69	29	324411	157	10
	424	9		97	5	324241	68	10	324306	101	20	324412	106	4
323541	122	11	324140	63	24	324242	68	10		69	28		157	16
	141	14		81	5	324243	68	10		84	19		63	40
	145	40		97	6	324244	68	10	324307	69	32		89	15
	147	35	324141	63	19	324245	68	5	324308	69	9	324434	103	8
323807	157	14		81	9	324246	68	4	324309	69	14		269	25
323814	67	1		97	10	324248	269	19	324310	69	24		88	11
323815	63	20	324143	63	33		269	27	324311	69	20	324435	67	15
	67	2	324144	63	3		68	7	324312	69	17	324436	67	16
	81	7		81	12	324254	77	12	324314	101	25	324437	67	17
	83	2		97	12	324255	77	11		275	22	324504	89	4
	97	8	324146	63	37	324256	77	8		69	23	324603	67	13
	99	2		81	15	324257	77	9		84	24	324632	275	5
323816	63	7		97	15		95	9	324316	101	27	324634	275	7
	67	3	324148	97	24	324259	69	16		69	25	324635	275	8
	81	14	324152	63	34		77	14		84	26	324636	275	2
	83	3	324153	63	9	324260	77	3	324317	69	21	324637	275	3

## NUMERICAL INDEX

PART NO	REF PAGE	NO	PART NO	REF PAGE	NO	PART NO	REF PAGE	NO	PART NO	REF PAGE	NO	PART NO	REF PAGE	NO
324638	275	4		141	13	334580	295	36	343040	263	11		81	17
324642	75	3		145	20	334582	299	22	343041	263	14	348436	68	10
324644	75	9		147	13	334587	295	2	343042	263	13	348437	102	13
	93	7	332495	313	10		297	2	343046	263	18		71	17
324646	75	8	332745	433		334595	291	18	344233	265	18		87	14
324647	75	5	332755	317	12		291	6	344234	263	22	348442	65	11
324648	75	4		5	33	334717	311			265	24	348450	68	11
324692	30	15	334156	357	10	334970	263	14	345410	312	5	348451	68	12
324707	33	16		383	9	335012	357	12	345411	312	6	348452	68	13
324740	213	28	334402	291	16		383	11	345412	312	8	348453	68	14
325616	379	41		291	4	335047	325	20	345423	309	26	348454	71	8
	381	41		293	16	335553	9	33	345453	23	9	348457	87	7
325708	172	3		293	4	335988	9	35		61	6	348462	69	18
325897	201	44	334406	295	1	335991	9	34	345454	23	7	349366	115	20
	205	44	334417	291	21	336393d	353			61	7		117	51
	207	21		291	9	336550	23	8	346205	312	18	350484	299	20
326488	305	1		293	21		61	8	346208	312	4	350485	343	7
326498	311	32		293	9	336830	287	57	346329	121	17		345	7
326504	28	18	334429	291	27		289	57	346530	63		352485	172	6
	29	2		293	27	336831	287	57		68		352499	172	28
	32	14	334439	291	17		289	57		72		352885	172	29
	33	30		291	3	336832	287	57	346645	299	15	352950	172	13
326516	122	12	334442	291	11		289	57	346648	299	8	352969	173	18
	141	12		291	23	336833	287	57	346650	299	16	353000	113	60
	145	19	334447	295	7		289	57	346656	299	47		115	40
	147	12		297	7	337174	353		346795	291	15		117	35
326612	27	3	334449	291		337179	353	18		291	5		125	37
326748	30	5		291	7		377	27	346796	291	10		127	4
326749	30	6	334450	287	21		409	21		291	22		129	4
326850	31	10		289	21	339529	311	27		293	10		131	21
326889	274	5	334452	287	22	339599	263			293	22		133	25
326926	122	2		289	22	340405	117	15	346842	295	6		135	4
	141	11	334453	295	5	340796	18	3		297	6		137	4
	145	18		297	5		19	3	346843	295	6		325	7
	147	11	334454	291	31		56	3		297	6	353141	172	3
326986	275	12	334475	291	12	340868	63	45	346844	295	6	353142	172	21
328390	305	12		291	24		81	10		297	6	353143	172	22
329029	11	21		293	12	341462	343	40	346845	295	6	353154	173	4
329067	113	61		293	24		345	40		297	6	353159	172	13
	115	39	334480	291	20	342703	335	10	346846	295	6	353164	172	20
	117	34		291	8	342734	295	24		297	6	353165	173	15
	125	45	334500	299	6		297	24	346847	295	6	353168	173	5
	127	5	334524	299	3	342741	67	22		297	6	353172	172	15
	129	2	334525	299	4	343029	263	19	347746	295	21	353175	173	11
	131	19	334531	299	9		265	5		297	21	353195	172	12
	133	23	334532	299	12	343031	263	5	347767	291	28	353198	115	5
	135	2	334542	299	27		265	10	347768	291	29		117	46
	137	2	334543	299	13	343032	263	6	347770	291	32		133	52
	325	2	334560	287	24		265	12	347773	291	33	353230	172	16
	3	7		289	24	343033	263	24		293	33	353291	253	10
329700	113	3	334571	287	11	343038	263	2	348427	63	14		253	10
332277	122	13		289	11	343039	263	20	348428	63	17	353294	257	16

## NUMERICAL INDEX

PART NO	PAGE	REF NO	PART NO	PAGE	REF NO	PART NO	PAGE	REF NO	PART NO	PAGE	REF NO	PART NO	PAGE	REF NO
353397	173	1		213	29	370647	181	8		115	13	382637	271	33
353422	173	6	367339	75	13		183	8		117	9	382638	271	12
353432	173	7	367419	367			197	33	377210	113	26	382639	271	27
353448	173	8		401			201	16	377211	127	37	382640	271	42
353453	172	14		433			205	16	377259	121	15	382641	271	30
354789	67	35	367420	367			207	3	378424	343	6	382642	271	29
356505	379	7		401		370730	229	14		345	6		271	39
	381	7		433			247	9	379197	9	28	382643	271	23
	411	12	367421	367		370863	181	6	379198	9	29	382644	271	15
	413	12		401			183	6	379199	9	42	382646	271	25
357749	353	19		433		370864	181	15	379407	49	40	382647	271	35
	377	28	367422	367			183	15	379697	9	43	383116	9	31
	409	14		401		370868	181	16	379698	9	40	383789	261	21
357956	320	16		433			183	16	380478	295	28	384101	361	10
	322	13	367423	367		372002	113	49	380483	295	32		394	10
357973	320	16		401			115	8	380485	295	33		426	10
	322	13		433			127	18	380486	295	30	384210	366	
359207	173	10	367424	367		373658	95	7	380488	295	31		400	
359221	299	25		401		373660	67	25	380489	295	29		432	
359223	299	2		433		373661	73	6	381250	49	3	384211	366	
360318	291	34	367475	295	16	373663	101	11	381270	49	3		400	
360387	133	18		297	16		69	13	381271	49	3		432	
	173	3	367945	299	17		84	11	381298	311	36	384213	366	
	35	18	369242	278	4	373833	299		381370	312	17		400	
	78	22	369795	366		374706	121	21	381846	185	18		432	
360974	76	3		400		374708	121	22		190	4	384214	366	
361876	299	24		432			145	36		193	17		400	
361877	299	23	369796	367		374709	121	23	381919	231	12		432	
361893	291	14		401			145	33		237	10	384215	366	
361895	291	13		433		374713	122	8		248	11		400	
362120	71	3	369804	23	28		141	3	382486	65	22		432	
362121	71	3	369815	113	17		147	3	382487	65	18	384216	366	
362122	71	3		115	10	374895	76	1	382488	65	21		400	
362450	71	14		117	2	374896	76	2	382491	65	23		432	
364807	9	24		117	43	374899	76	5	382493	65	14	385855	343	17
364808	9	25		125	23	374922	151	6	382494	65	12		343	32
364854	9	30		133	58		153	31	382495	65	7		343	49
364914	9	21	369921	299	29		155	6	382497	65	10		345	17
366115	391	5	369922	299	14	374923	151	7	382498	65	9		345	32
	392	5	370169	47	29		153	32	382499	65	6		345	49
366116	359	5	370250	11			155	7	382502	65	3	386071	273	11
	424	5	370251	11		375550	47	1	382503	65	2	387455	317	34
366473	113	16	370252	11		375555	47	25	382504	65	16	387478	141	33
	115	6	370253	11		375572	47	23	382505	65	15		147	33
	117	8	370254	11		375601	47	22	382508	65	8	387480	141	34
	119	16	370255	11		375634	313	1	382509	65	1		147	34
	119	41	370256	11		375635	313	2	382511	65	1	387481	141	35
	125	33	370257	11		375984	317	17	382632	271	18		147	17
	127	10	370258	11		375986	299	18	382633	271	9	387488	271	32
	131	43	370259	11		376505	198	83	382634	271	28	387867	320	11
366687	213	32	370646	181	7	376949	278	15	382635	271	13		320	11
367224	211	35		183	7	377209	113	25	382636	271	26	387869	181	16

## NUMERICAL INDEX

PART NO	REF PAGE	REF NO	PART NO	REF PAGE	REF NO	PART NO	REF PAGE	REF NO	PART NO	REF PAGE	REF NO	PART NO	REF PAGE	REF NO
	183	16	878152	283	1		205	56		235	27		247	8
	253	1	878574	325	16		207	31		237	18	1324006	55	24
387892	183	34	895973	283		1314392	201	65		239	32	1324029	322	2
388277	77	10	986236	197	42		205	65		243	16	1324035	322	9
388278	77	2	990615	157	11		207	24		247	26	1324040	322	6
	95	2	996297	287		1315425	311	18		248	9	1324041	322	7
388280	101	24		291		1316496	129	25	1323579	219	12	1324042	322	8
	69	22		295		1316809	287	28		221	12	1324048	322	4
	84	23		299			289	28		227	28	1324278	211	26
388291	65	24	996336	259		1317468	53	11		229	27	1324311	217	4
388293	73	10	1300066	111	21	1319190	197	17		231	8		225	4
388294	76	9	1300107	9	23		202	91		233	8	1324517	253	5
388305	37	32	1300152	153	20		205	40		235	22		257	5
	55	30	1300295	49	27		207	57		237	6	1324557	317	28
388316	55	44	1300892	267	9	1319668	355	9		239	8	1325033	111	14
388321	47	13		269	18		357	9		241	6	1325037	111	28
388322	55	10	1301016	133	13		383	8		243	6	1325119	361	13
388323	49	16	1301601	135	38		414	5		247	23		394	13
388364	47	24		137	41		415	5		248	10		426	13
388501	271		1301720	229	36	1320669	181	3	1323580	235	25	1325271	11	18
389688	11	24	1301721	253	26		183	3		237	30	1326394	258	1
392800	137	34	1301870	353			198	87		239	17	1326395	258	2
636941	386	14	1302973	299	46		201	54		243	25	1326396	258	3
	390	14	1303195	137	33		205	54		247	24	1326397	258	4
	418	14	1303787	312	10		207	19	1323581	187	29	1326398	258	5
	422	14	1304091	305	5	1320766	165	6		227	9	1326399	258	6
637151	337	5	1304786	43	6	1320893	317	29		229	8	1326536	258	7
637565	386	16	1304950	129	24	1320922	135	37		235	24	1326537	258	9
	390	16	1305789	65	5	1320939	213	20		235	3	1326538	258	11
	418	16	1306585	9	24		93	33		237	15	1326660	366	
	422	16	1306588	9	25	1321149	313	7		239	23		400	
638246	355	12	1307641	361	6	1321174	313			239	31		432	
	383	11		394	6	1322627	287	25		241	14	1326661	366	
864737	111	45		426	6		289	25		243	14		400	
864740	11	27	1308057	299		1323575	227	19		247	3		432	
	244	9	1308259	217	9		229	18	1323583	219	11	1326663	366	
864763	244	5		225	7		231	49		221	11		400	
864764	244	2	1309419	343	6		233	45		229	39		432	
864809	111	28		345	6		237	24		231	58	1326664	366	
864810	125	41	1309829	75	1		239	25		235	23		400	
864811	125	42	1310370	355	9		243	22		237	35		432	
864814	125	22		357	9	1323576	227	5		239	12	1326665	366	
864815	125	27	1310599	311	17		229	5		243	27		400	
864816	125	24	1310611	211	5		235	26		247	21		432	
864817	125	28		253	26		237	25	1323586	227	15	1326666	366	
864818	125	30	1312813	55	32		239	24		229	13		400	
864824	251	11	1314381	202	92		243	23		231	34		432	
864829	251	1		205	37		247	25		233	33	1326931	263	40
864839	119	44		207	39	1323578	227	23		235	9	1326939	197	47
864848	45			45	17		229	22		237	26		202	90
864858	111	44	1314387	197	1		231	26		239	16		205	41
865216	244	3		201	56		233	25		243	24		207	51

**NUMERICAL INDEX**

PART NO	PAGE	REF NO	PART NO	PAGE	REF NO	PART NO	PAGE	REF NO	PART NO	PAGE	REF NO	PART NO	PAGE	REF NO
	211	19	1328826	334	10		95			229	45		235	12
	213	18	1328828	334	11	1329318	63	30		231	27		237	8
1327161	317	2	1328829	334	12		81	21		233	26		239	10
1327164	227	32	1328890	111	31		97	17		235	11		241	8
	229	31	1328892	111	31	1329327	68	3		237	19		243	8
	231	43	1328930	339	7	1329328	68	4		239	30		247	12
	233	41		341	7	1329332	93	5		241	15		248	8
	237	31	1329146	113	28	1329333	93	4		243	17	1330299	185	1
	239	18		115	15	1329336	75			247	11		187	16
	241	20	1329147	185	3	1329337	93	6		248	14		193	6
	243	26		187	15	1329339	93	8	1330292	217	10		215	4
	247	7		187	17	1329344	105	5		227	45		219	10
1327246	305	18		190	2		73	7		229	44		221	10
1327414	345	4		193	8		90	4		231	30		223	6
1327415	345	1		215	6		94	10		233	29		227	49
1327554	111	4		217	8	1329346	157	7		235	10		229	49
1327898	135	24		223	8	1329347	157	6		237	22		231	7
	137	23		227	29	1329348	157	5		239	27		233	7
1327951	197	70		229	28	1329349	157	4		241	18		235	14
	201	3		231	59	1329350	157	17		243	20		237	5
	205	3		233	54	1329351	157	18		244	7		239	7
1327956	227	34		235	16	1329352	157	3		247	10		241	5
	229	33		237	16		159	5		248	12		243	5
1327957	227	13		239	14		161	5	1330293	197	11		247	14
	229	11		241	21	1329353	157	1		201	10	1330301	197	60
	231	47		243	29		159	14		205	10		201	17
	233	43		247	16		161	8		207	2		205	17
1327958	227	22	1329148	215	10	1329359	157	22	1330294	227	36	1330302	227	24
	229	21		227	51	1329362	157	19		229	35		229	23
	231	25		229	51	1329363	157	20	1330296	227	8		231	35
	233	24		231	57	1329364	157	21		229	7		233	34
	235	28		233	53	1329365	157	23		231	33	1330303	227	25
	237	17	1329151	227	3	1329366	157	24		231	52		229	24
	239	33		229	3	1329367	63	45		233	32		231	36
	243	15		231	6	1329369	63	45		233	48		233	35
	247	27		233	6	1330003	102	2		247	22	1330304	227	27
1327959	227	57	1329152	215	9		71	16	1330297	227	59		229	26
	229	56		227	1	1330033	135	25		229	60		231	37
	231	56		229	1		137	24		231	55		233	36
	233	52		231	5	1330035	135	27		233	51	1330324	131	
1327960	227	20		233	5		137	26	1330298	185	9		133	
	229	19	1329234	78	10	1330036	135	28		187	13	1330325	131	31
	231	51	1329250	309	28		137	27		190	1		133	36
	233	47	1329258	56	17	1330037	135	29		193	11	1330326	131	30
1327961	131	32		78	15		137	28		215	7		133	35
	133	37	1329259	56	15	1330279	227	35		217	6	1330342	131	3
1328680	325	18	1329271	23	19		229	34		223	10		133	3
1328692	287	34		61	22	1330281	227	26		225	9	1330355	227	2
	289	34	1329272	23	20		229	25		227	48		229	2
1328822	334	6		61	23		231	28		229	48		231	15
	335	6	1329285	165	6		233	27		231	10		233	14
1328824	334	8	1329314	77		1330283	227	46		233	10		235	30

## NUMERICAL INDEX

PART NO	REF PAGE NO	PART NO	REF PAGE NO	PART NO	REF PAGE NO	PART NO	REF PAGE NO	PART NO	REF PAGE NO
	237 13		221 6		248 4		248 5	1331340	39 9
	239 21	1330419	185 4	1330426	185 8	1330439	181 23		39 9
	241 12		187 11		187 5		185 15	1331341	55 2
	243 12		193 9		193 2		187 8	1331342	47 9
	247 28		219 8	1330427	187 10		188 8	1331343	49 12
1330356	227 18		223 4		193 5		189 6	1331344	49 14
	229 17		225 5		248 7		193 13	1331349	49 20
	231 16		229 9	1330428	185 17		195 4		51 16
	233 15		237 20		187 2		197 36	1332575	81
	235 33		239 29		225 2		201 41	1332637	78 16
	237 14		241 16	1330429	187 7		211 42	1332638	78 17
	239 22		243 18		193 15		213 36	1332667	5 7
	241 13		244 8		215 2		215 11	1332670	5 3
	243 13		247 4		217 2		217 11	1332745	367
	247 31		248 3		223 2		219 7		401
1330357	227 17	1330420	185 7		227 55		221 3	1333018	367
	229 16		187 4		229 55		223 9		401
	231 14		193 1		231 2		225 8		433
	233 13	1330421	187 9		233 2		227 54	1333020	367
	235 32		193 4		235 20		229 54		401
	237 12		221 14		237 2		231 4		433
	239 20		248 6		239 2		233 4	1333021	367
	241 11	1330422	185 16		241 2		235 19		401
	243 11		187 1		243 2		237 4		433
	247 30	1330423	187 6		247 20		239 4	1333024	367
1330383	131 28		193 14	1330433	188 5		241 4		401
	133 32		215 1		189 3		243 4		433
1330409	188 6		217 1		9 6		247 19	1333328	353 6
	201 42		223 1	1330434	185 6	1330452	55 42		377 6
	211 7		225 1		227 53	1330453	43 5		379 18
	213 5		227 52		235 18		55 35		381 18
	219 4		229 52	1330435	173 13	1330456	53 7		413 21
	9 6		231 1		195 3	1330459	47 27	1333329	377 10
1330410	173 13		233 1	1330436	193 3	1330467	51 2	1333382	353 8
	197 35		235 17	1330437	219 6	1330725	53 13		377 12
	201 40		237 1		221 7	1330772	49 24		409 4
	211 41		239 1	1330438	187 3	1330917	11 13	1333385	305 34
	213 35		241 1		193 16	1330919	11 7		361 16
1330412	181 18		243 1		215 3	1330920	11 20		362 11
	189 7		247 17		217 3	1330979	75 11		394 15
	195 1	1330424	185 5		219 2	1331152	23 23		426 16
1330413	188 3		187 12		221 2		61 26		427 11
	189 1		193 10		223 3	1331162	303 2	1333386	361 1
	221 5		219 9		225 3	1331233	187 22		362 1
1330414	188 7		223 5		229 53	1331325	47 8		394 1
	219 5		225 6		231 3	1331329	51 4		426 1
	9 6		229 10		233 3	1331330	259		427 1
1330415	173 13		237 21		237 3	1331331	51 8	1333389	351 6
1330417	189 8		239 28		239 3	1331335	47 7		373 10
	195 2		241 17		241 3	1331336	47 7	1333392	353 16
1330418	188 4		243 19		243 3	1331338	47		377 21
	189 2		247 5		247 18		55		409 13

## NUMERICAL INDEX

PART NO	PAGE	REF NO	PART NO	PAGE	REF NO	PART NO	PAGE	REF NO	PART NO	PAGE	REF NO	PART NO	PAGE	REF NO
1333396	349	6	1334403	259	4		89	12		187	14	1335937	35	4
	351	5	1334404	259	5		97	27		190	3	1335942	142	
	371	6	1334405	259	6	1334676	88	1		193	12		40	
	373	6	1334406	259	7	1334678	103	2		215	5		41	
	375	5	1334407	259	8		88	3		217	7		42	
	405	6	1334408	259	9	1334679	103	3		223	11		43	
	407	5	1334409	259	10		88	2		225	10		45	
1333397	349	6	1334410	259	11	1334680	103	5		227	33	1335943	40	
	351	5	1334411	259	12		88	5		229	32		41	
	371	6	1334412	259	13	1334681	88	6		231	11		42	
	373	6	1334413	259	14		97	22		233	11		43	
	375	5	1334579	291	1	1334682	103	6		235	13		45	
	405	6	1334638	319	9		88	7		237	9	1335944	24	
	407	5	1334639	319	8	1334685	103	7		239	11		25	
1333398	391	2	1334642	319	6		88	10		241	9		26	
	392	2	1334645	319	3	1334691	87	1		243	9		27	
1333399	391	2	1334646	319	3	1334692	87	2		247	13		28	
	392	2	1334647	319	2	1334694	87	4	1335129	11	9		29	
1333587	269	29	1334648	319	1	1334695	87	5	1335147	11	23		30	
1333644	351	7	1334650	83	26	1334696	87	6	1335212	47	28		31	
	373	11	1334651	83	4	1334697	102	9	1335219	49	19		32	
1333825	131	47		99	3		87	17	1335222	55	12		33	
1333840	115	3	1334653	83	10	1334698	87	9	1335224	53	9	1335948	63	
	117	6		99	12	1334699	87	10	1335227	47	23	1335954	58	10
	117	6	1334654	83	19	1334714	35	11	1335228	47	25		90	10
	131	45		99	16	1334717	287	4	1335241	39	20	1335960	18	17
1333986	121	19	1334655	83	6		289	4	1335480	37	4	1335961	18	16
1333987	121	20	1334656	83	8	1334718	311	7	1335499	55	4	1335967	309	8
1334026	149	1		99	8	1334723	311	1	1335502	305	26	1335972	287	47
1334027	149	2	1334657	83	17	1334760	291	2	1335503	305	20	1335973	287	43
1334028	149	3		99	22	1334771	287	18	1335752	7		1335975	281	
1334029	149	4	1334658	83	23		289	18	1335754	7		1335976	281	
1334142	149	6	1334660	83	25	1334772	287	5	1335756	7		1335977	281	
1334199	149	5	1334661	83	22		289	5	1335761	7	3	1335978	281	
1334200	149	7		99	10	1334785	287	37	1335762	7	5	1335979	281	
1334201	149	8	1334662	99	21		289	37	1335763	7	6	1335980	281	
1334212	149	9	1334663	67	32	1334786	287	33	1335764	21	1	1335981	56	12
1334213	149	10		83	12		289	33	1335765	21	2	1335983	56	13
1334214	149	11	1334664	83	20	1334791	305	25	1335825	49	15	1335986	305	13
1334215	149	12		99	20	1334796	295	13	1335827	51	5	1335987	309	7
1334231	149	14	1334665	83	14		297	13	1335828	51	7	1336135	113	10
1334232	149	13		99	17	1334845	113	32	1335888	291	34		127	39
1334272	67	28	1334666	83	16		117	4	1335890	291	34	1336137	127	27
	93	22		99	19		121	2	1335892	295	1	1336171	231	31
	93	22	1334667	83	24	1334847	113	31	1335894	295	1		233	30
1334350	135	25	1334668	83	11		117	3	1335898	20	13		237	23
	137	24	1334669	83	18		121	1		58	12		239	26
1334352	135	25	1334670	83	1	1334998	227	31	1335921	287	17		241	19
	137	24	1334672	83	15		229	30		289	17		243	21
1334400	259	1		99	18		231	54	1335922	327		1336173	185	2
1334401	259	2	1334673	83	27		233	50	1335924	327			187	18
1334402	259	3	1334675	68	6	1334999	185	10	1335927	35	4		193	7



## NUMERICAL INDEX

PART NO	REF PAGE	NO	PART NO	REF PAGE	NO	PART NO	REF PAGE	NO	PART NO	REF PAGE	NO	PART NO	REF PAGE	NO
	215	8	1337138	78	2	1337697	89	9	1338292	339	17	1338434	94	
	223	7	1337148	5	4	1337698	89	10		341	17	1338435	94	1
	227	50	1337159	325	10	1337699	89	11	1338296	300	5	1338436	94	2
	229	50	1337179	3	1	1337789	227	30		301	5	1338437	94	3
	231	9	1337181	5	5		229	29	1338300	20	15	1338439	94	5
	233	9	1337182	35	5		231	53	1338308	20	18	1338440	94	6
	235	15	1337196	278	11		233	49	1338328	23	1	1338441	94	7
	237	7		309	27	1337800	9	41	1338332	20	9	1338442	94	9
	239	9	1337197	181	36	1337817	299	7	1338333	345	a	1338448	95	5
	241	7		183	41	1337900	391	2	1338400	87	11	1338449	88	9
	243	7	1337350	235	29		392	2	1338403	87	15		95	5
	247	15	1337382	320	12	1337905	379	31	1338404	102	15		95	5
1336605	11	14	1337386	229	37		381	31		87	16	1338453	106	2
1336870	185	12		231	38		411	24	1338405	102	16		89	13
	187	25		233	37		413	24		87	12	1338454	106	3
	244	6	1337392	185	11	1337940	358	1	1338406	84	1		89	14
	248	15		248	1	1337943	358	1	1338407	84	2	1338456	269	24
1336871	185	13	1337393	187	28	1337978	142	5	1338408	84	4		269	24
	187	26	1337626	334		1338087	366		1338409	101	6		269	26
	248	16	1337641	111	32		400			84	6		63	12
1336874	185	14	1337642	111	33		432		1338410	101	7		68	6
	187	27	1337643	111	34	1338088	366			84	7		75	18
	248	2	1337644	111	35		400		1338411	101	8		89	16
1337000	78	18	1337645	111	36		432			84	8	1338457	93	1
1337001	35	12	1337665	51	9	1338089	366		1338412	84	9	1338458	93	14
1337002	23	1	1337666	51	10		400		1338413	101	10	1338459	93	15
	61	1	1337677	102	17		432			84	10	1338460	93	15
1337008	35	12		87	18	1338098	367		1338415	101	13		97	30
1337012	18	13	1337678	81	3		401			84	12	1338461	93	21
1337014	18	12		97	4		433		1338416	84	13	1338462	93	23
1337043	309	1	1337680	81	18	1338178	11	1	1338417	101	15	1338463	93	20
1337051	287	38		97	16	1338223	43	5		84	14	1338465	93	26
	289	38	1337681	81	19	1338255	305	27	1338418	84	15	1338466	93	24
1337052	287	42	1337684	81	24		319		1338419	84	16	1338467	93	20
	289	42	1337685	81	25	1338256	305	19	1338420	101	18	1338468	90	11
1337069,	295			93	19		319			84	17		93	19
1337069	287			97	28	1338258	20	11	1338422	101	21		93	27
	291		1337690	89	3	1338259	287	26		84	20	1338470	93	30
	299		1337691	104	7		289	26	1338424	101	23	1338471	93	29
1337070	287			89	5	1338260	317	5		84	22	1338472	75	17
	291		1337692	104	8	1338262	317	9	1338427	84	25		93	28
	295			89	6	1338264	58	17	1338428	101	28	1338473	269	23
	299		1337693	104	9	1338268	58	16		84	27	1338528	391	1
1337091	317	16		81	22	1338276	20	19	1338429	84	28	1338530	391	1
1337093	35	2		89	7		57	14	1338430	101	31	1338616	359	1
1337104	343			97	18		58	18		84	30	1338618	359	1
1337106	35	3	1337694	104	10	1338278	58	1	1338431	101	32	1338642	360	1
1337107	35	1		72	2	1338282	20	1		84	31		393	1
1337108	317	11		89	8		57	1	1338432	101	33		425	1
1337114	281	18	1337695	104	11	1338283	277	21		84	32	1338645	360	1
1337118	20	12	1337696	104	1	1338286	278	9	1338433	101	34		393	1
	58	11		72	3	1338291	282	8		84	33		425	1

**NUMERICAL INDEX**

PART NO	PAGE	REF NO	PART NO	PAGE	REF NO	PART NO	PAGE	REF NO	PART NO	PAGE	REF NO	PART NO	PAGE	REF NO
1338739	337	4		39	10		201	13	1339746	339	53	1341487		357
1338740	337	3	1339154	39	13		205	13	1339748	339	52	1341506		357
1338741	337	8		39	13	1339461	198	73	1339749	339	11	1341509		357
1338742	337		1339155	39	14		201	12		341	11	1341514		357
1338743	337	1		39	14		205	12	1339759	131	27	1341519		357
1338744	337	2	1339156	45	14	1339626	171	3		133	31	1341524		357
1338752	105	1	1339157	39	11	1339628	168	8	1339769	111	1	1341542		383
	90	1		39	11	1339632	165	3	1339770	339	52	1341545		383
1338754	105	4	1339159	39	1		170	17	1339773	3	21	1341547		383
	269	19		39	1	1339635	23	26	1339776	3	24	1341550		383
	269	26	1339160	39	3	1339636	339	34	1339777	3	20	1341575		383
	83	32	1339161	39	5		341	34	1339786	5	6	1341578		383
	90	3	1339162	39	4	1339637	278	10	1339789	131	24	1341580		383
	99	26	1339163	39	8	1339639	78	9		133	28	1341583		383
1338761	155	28		39	8	1339647	325	5	1339791	325	19	1341608		383
1338763	159	1	1339164	39	6	1339655	61	28	1339793	339	19	1341611		383
1338764	159	2		39	6	1339657	61	29		341	19	1341613		383
1338765	159	3	1339165	39	6	1339672	11	2		5	28	1341616		383
1338766	159	4		39	6	1339674	11	5	1339799	339	34	1341641		383
1338767	159	7	1339166	39	6	1339690	61	29		341	34	1341644		383
1338768	159	6		39	6	1339691	45	22	1340958	189	10	1341646		383
1338769	159	8	1339167	39	15	1339694	5	14	1341004	371		1341649		383
1338770	159	9		39	15	1339700	325	4	1341005	349		1341675		421
1338771	159	10	1339168	39	15	1339702	339	8		405		1341676		389
1338772	159	11		39	15		341	8	1341007	371		1341678		421
1338773	159	12	1339169	39	15	1339706	111	8	1341008	349		1341679		389
1338774	159	13		39	15	1339713	339	55		405		1341682		389
1338775	159	15	1339174	261		1339715	339	28	1341010	371		1341683		421
1338776	83	30	1339265	151	8		341	28	1341013	349		1341685		389
	99	24		153	34	1339717	172	19		371		1341714		373
1338777	83	31		155	8	1339719	3	26		405		1341717		373
1338779	78	11	1339271	23	25	1339720	129	19	1341019	349		1341719		373
	83	32	1339272	23	24		131	51	1341024	349		1341722		373
1338780	63	15	1339273	23	26		133	64	1341210	351		1341879		375
	83	33	1339300	339	18		135	19	1341213	351				375
	99	28		341	18		137	19	1341218	351		1341882		375
1338787	83	29	1339328	57	9	1339723	339	4	1341223	351				375
1338788	81	28	1339332	287	39		341	4	1341228	351		1341884		375
1338790	81	29		289	39	1339724	339	5	1341395	355				375
1339102	121	18	1339333	300	3		341	5	1341398	355		1341887		375
	145	37	1339334	287	41	1339725	339	14	1341403	355				375
1339128	37	25		289	41		341	14	1341408	355		1342045		385
1339131	37	27	1339425	131	9	1339727	339	15	1341413	355				417
1339132	37	27	1339434	197	64		341	15	1341432	355		1342048		385
1339133	37	27	1339438	131	11	1339729	339	16	1341435	355				417
1339134	37	27		133	11		341	16	1341440	355		1342051		385
1339135	37	28	1339444	197	12	1339731	339	35	1341445	355		1342053		417
1339139	37	28		201	11		341	35	1341450	355		1342054		385
1339144	37	28		205	11	1339737	339	27	1341469	357		1342118		381
1339149	40	8	1339447	229	58		341	27	1341472	357				413
1339152	45	11	1339448	229	57	1339743	56	9	1341477	357		1342120		377
1339153	39	10	1339459	197	65	1339745	339	54	1341482	357				381

## NUMERICAL INDEX

PART NO	REF PAGE NO	PART NO	REF PAGE NO	PART NO	REF PAGE NO	PART NO	REF PAGE NO	PART NO	REF PAGE NO
1342121	353		115 38	1343541	317 1	1343843	391		359 2
	381		117 33	1343550	129 15	1343844	424		423 2
1342123	377		125 35		131 50	1343845	424		424 2
1342124	353		127 2		133 60	1343846	359	1345225	423 1
1342129c	353	1343421	111 15		135 15	1343847	359	1345226	423 1
1342129	377	1343434	111 7		137 16	1343887	283 6	1345239	424 1
1342134	353	1343443	339 6	1343553	317 10	1343989	379 21	1345240	424 1
1342139	353		341 6	1343557	287 46		381 21	1345263	358 4
1342222	414	1343448	129 1		289 46	1343990	360 2		359 4
1342225	414		131 25	1343560	325 14		393 2		423 4
1342230	414		133 29	1343572	309 18		425 2		424 4
1342251	415		135 1	1343573	309 5	1344146	303 1	1345264	358 1
1342280	414		137 1	1343574	309 16	1344274	265 11		359 1
1342283	414	1343449	113 59	1343577	282 1	1344798	283 7		423 1
1342288	414		115 45	1343578	282 2	1344799	283 10		424 1
1342373	413		117 32	1343579	282 3	1345022	168 13	1345267	360 1
1342374	381		125 36	1343585	78 21	1345026	231 45		393 1
	413		127 3	1343586	35 11		237 33		425 1
1342376	413		129 5	1343593	282 5	1345027	231 39	1345311	411
1342377	381		131 22	1343594	282 9		237 29		413
	413		133 26	1343595	181 42	1345029	231 44	1345314	411
1342379	381		135 5		183 48		237 32		413
1342380	413		137 5	1343596	181 50	1345181	351 8	1345319	411
1342383d	353		325 1		183 21		373 12		413
1342384	377	1343452	325 9	1343597	181 51	1345183	351 8	1345348	365 17
1342391	381	1343453	61 28		183 44		373 12	1345352	358 6
1342392	353	1343458	5 1	1343598	282 4	1345190	365 9		359 7
1342393	353	1343460	297 31	1343607	309 14		397 14	1345354	337 13
1342407	379	1343461	339 40	1343612	281	1345199	397 9		361 5
	381		341 40	1343613	281		430 10		362 5
1342410	379	1343466	58 15	1343614	281	1345201	381 30		394 5
	381	1343471	58 9	1343618	23 1		413 25		426 5
1342412	379	1343473	5 2		61 1	1345204	397 10		427 5
	381	1343478	300 7	1343623	23 1		430 11	1345359	379
1342415	379		301 7	1343630	317 4	1345216	349 2		381
	381	1343479	300 4	1343635	151 1		351 2	1345362	379
1342474	407		301 4		153 26		371 2		381
1342477	407	1343480	300 6		155 1		373 2	1345364	379
1342482	407		301 6	1343636	181 39		375 2		381
1342600	95 8	1343481	339 41		183 49		391 1	1345367	379
1342611	93		341 41	1343638	151 13		392 1		381
1342613	93 3	1343482	339 48		153 38		405 2	1345401	379 12
1342614	93 9		341 48	1343643	142		407 2		381 12
1342615	93 10	1343484	339 49	1343647	3 6	1345218	358 2	1345403	353 21
1342752	149		341 49	1343648	113 24		359 2		377 23
1342786	149 5	1343508	317 15		133 44		423 2		409 20
1342787	149 7	1343531	339 42	1343831	311 5		424 2	1345412	365 4
1342819	149 14		341 42	1343838	358	1345219	358 2	1345413	365 4
1342997	145 26	1343533	287 27	1343839	423		359 2	1345423	430 16
1343219	295 10		289 27	1343840	423		423 2	1345496	365
	297 10	1343537	309 19	1343841	358		424 2		365
1343414	113 58	1343540	317 3	1343842	391	1345220	358 2	1345499	365

**NUMERICAL INDEX**

PART NO	PAGE	REF NO	PART NO	PAGE	REF NO	PART NO	PAGE	REF NO	PART NO	PAGE	REF NO	PART NO	PAGE	REF NO
	365			213	27		229	4		233	22	1350990	142	6
1345516	365		1347072	23	4		235	1	1350226	135	21	1350991	133	45
1345568	429			61	4		247	1		137	20		142	7
1345571	429		1347075	155	25	1347206	227	10	1350231	7	12	1351000	129	10
1345573	429		1347076	23	17		235	4		7	12		135	10
1345574	429			61	20	1347208	227	56	1350234	325	46		137	11
1345575	429		1347088	5	13		235	34	1350236	331		1351008	5	11
1345676	113	34	1347090	320	7	1347209	227	6	1350238	331		1351011	135	30
	121	11	1347091	320	6		235	35	1350241	5	18	1351014	7	
1345677	113	33	1347096	5	1		235	7	1350260	58	1	1351016	7	
	121	12	1347100	155	14	1347210	227	16	1350261	20	1	1351017	18	11
1345689	237	27	1347101	155	15		229	15		57	1		19	10
	239	5	1347105	155	16		231	13	1350273	325	21		56	11
1345690	237	28	1347106	155	15		233	12	1350274	299	38	1351043	339	30
	239	6	1347108	155	16		235	31	1350275	299	40		341	30
1345825	23	30	1347110	5	12		237	11	1350276	299	37	1351047	339	27
	61	9	1347112	339	43		239	19	1350282	181	13		341	27
1345939	11	17		341	43		241	10		183	13	1351048	339	28
1345991	131	10	1347113	320	5		243	10		278	3		341	28
	133	10	1347114	181	54		247	29		5	24	1351049	339	29
1345998	11	10	1347116	320	13	1347212	325	29	1350285	5	16		341	29
1346872	113	51	1347119	18	14	1347224	187	21	1350286	129	6	1351059	197	2
	117	10	1347121	213	37	1347300	299	10		131	1	1351060	18	7
	121	8	1347122	213	38	1347970	319	11		133	1		19	7
	127	19	1347125	20	10	1347971	319	11		135	6		56	7
1346874	115	7	1347126	20	10	1350036	153	19		137	6	1351061	18	6
1347004	183	47	1347128	57	10	1350042	153	16	1350290	129	9		19	6
	282		1347133	155	19	1350200	213	37		135	9		56	6
1347013	151	15	1347135	309	25	1350215	155	13		137	10	1351064	339	31
1347018	5	17	1347137	185			339	58	1350291	129	8		341	31
1347020	305	35	1347153	129	20		341	52		135	8	1351068	219	1
1347021	151	16		135	20		5	20		137	9		221	1
	153	8		137	42	1350218	227	37	1350292	135	32	1351069	219	3
1347024	312		1347156	325	25		229	38		137	31		221	4
1347025	309	26	1347157	35	3		231	18	1350298	129	13	1351070	221	8
1347026	23	3	1347158	300	8		233	17		135	13	1351076	221	9
	61	3		301	8	1350219	227	38		137	14	1351077	325	42
1347027	325	38	1347159	172	7		231	19	1350299	129	14	1351083	201	38
1347028	325	39	1347160	3	17		233	18		135	14		219	
1347029	325	40	1347161	3	18	1350220	227	39		137	15	1351084	113	7
1347030	325	41	1347164	113	30		229	40	1350321	3	19	1351089	129	21
1347043	21	9	1347166	113	4		231	20	1350400	113	52	1351094	198	74
1347045	21	8		127	6		233	19		117	7	1351095	198	74
	5	19	1347175	5	8	1350221	227	40		127	20	1351096	18	5
	7	14	1347202	111	23		229	41	1350682	133	59		19	5
1347048	322			113	62		231	21	1350706	343	4		56	5
1347051	45	21		125	21		233	20	1350707	343	1	1351098	18	4
1347064	275		1347204	227	7	1350222	227	41	1350986	142	1		19	4
1347067	197	57		229	6		231	22	1350987	142	2		56	4
	205	70		235	2		233	21	1350988	133	45	1351099	221	13
	207	38		247	2	1350223	227	42		142	3	1351133	111	42
	211	32	1347205	227	4		231	23	1350989	142	4		197	58

## NUMERICAL INDEX

PART NO	REF PAGE	REF NO	PART NO	REF PAGE	REF NO	PART NO	REF PAGE	REF NO	PART NO	REF PAGE	REF NO	PART NO	REF PAGE	REF NO
	201	34	1352090	173	12		329		1354105	283	1		133	22
	208	66	1352098	131	14		333		1354109	3	23	1354264	181	26
	211	33	1352099	131	15	1352465	331		1354113	113	27	1354265	131	48
	251	14	1352100	131	16	1352470	331	6	1354114	113	44	1354300	282	11
1351134	303	1	1352101	131	17	1352471	331	7		131	49	1354323	181	14
1351135	303	2	1352104	227	43	1352472	331	7	1354117	113	45		183	14
1351139	227	12		229	42	1352482	331	7		115	9	1354336	127	25
	231	32		231	40	1352550	35	1		117	1	1354343	11	8
	233	31		233	38	1352558	215		1354125	197	24	1354356	131	44
	235	6	1352105	227	44	1352568	253	14		251	6	1354373	198	71
1351140	325	52		229	43	1352569	253	9	1354140	9	32		201	15
1351145	111	29		231	41	1352571	253	9		9	6		205	15
1351146	111	30		233	39	1352575	173		1354153	11	8	1354379	197	40
1351176	20	6	1352123	113	46	1352578	3	12	1354155	11	8		202	77
	57	6		115	37	1352599	188	1	1354157	11	8		205	67
	58	5		117	31		189	9	1354159	11	8		207	42
1351177	20	8		125	38	1352600	188	2	1354165	11	4		211	6
	57	8		127	12	1352602	188	9	1354171	11	19		213	4
	58	7	1352124	5	21		189	4	1354201	201	62	1354380	5	36
1351178	21	6	1352125	5	22	1352603	188	10		213	22	1354382	217	12
1351431	9	1	1352126	5	23		189	5	1354202	197	30	1354383	217	13
1351432	9	1	1352140	23	22	1352605	188			211	24	1354385	197	34
1351681	205	76		61	25	1352606	183	57	1354203	113	29		201	52
	208	69	1352142	227	58		188	11		115	19	1354746	331	3
	211	7		229	59		189	11		117	52	1354748	331	5
	213	5		231	46	1352612	197	13		119	19	1354775	281	1
1351682	205	75		233	42		201	48		125	3	1354776	281	2
	208	68		235	21		205	48		127	17	1354777	281	22
	211	41		237	37		207	11	1354204	227	47	1354778	281	8
	213	35		239	15	1352616	309	31		229	46	1354780	281	5
1351683	183	45		243	30		325	54		231	60	1354782	281	10
1352015	69	1	1352144	131	37	1352617	190			233	55	1354783	281	9
1352016	69	2	1352145	198	75	1352625	198	82	1354209	253	22	1354784	281	12
1352032	334	7		227		1352641	168	19	1354227	253	20	1354785	281	13
1352036	334		1352157	325	50	1352642	168	20	1354228	253	20	1354786	281	14
1352040	327	3	1352171	198	75	1352645	197	70	1354229	253	36	1354787	281	15
1352041	327	4		235			201	30	1354237	227	14	1354788	281	16
	331	4	1352178	198	72	1353464	398	25		229	12	1354792	281	23
1352042	327	5		201	14	1353530	365			231	48	1354793	281	24
1352048	327	6		205	14		365			233	44	1354796	281	26
1352049	327	7	1352184	253	9		365			235	8	1354804	281	4
	331	8	1352185	254	39		365	18		237	36	1354805	281	11
1352066	197	54	1352187	254	38		397	4		239	13	1354806	281	17
	201	37	1352188	253	10		430	17		239	15	1354807	281	25
	205	77	1352189	253	9	1354046	49	29		243	28	1354814	55	1
	208	65	1352190	254	47	1354047	49	31		243	30	1354902	379	36
	211	29		257	18	1354049	281	3	1354248	253	37		381	36
	213	24	1352191	253	6	1354076	163		1354251	168	23		411	15
1352069	211	20		257	6	1354088	181	9	1354252	168	24		413	15
	223		1352453	327	6	1354090	3	22	1354253	168	9	1354903	379	22
1352088	183	24	1352456	327	6	1354092	113	39	1354254	168	22		381	22
	195		1352463	327		1354096	145		1354259	131	18	1354904	365	16

**NUMERICAL INDEX**

PART NO	PAGE	REF NO	PART NO	PAGE	REF NO	PART NO	PAGE	REF NO	PART NO	PAGE	REF NO	PART NO	PAGE	REF NO
	397	6	1355220	355	3	1355598	383		1356068	421			233	46
	430	6	1355221	355	4	1355599	383		1356070	389		1356513	117	59
1354906	397	18	1355222	355			383		1356071	389			127	36
1354907	397	18	1355276	355		1355601	383		1356074	389		1356514	127	40
1354911	379	30	1355277	355		1355606	383		1356100	3	25	1356522	165	3
	411	25	1355284	357	3	1355607	383		1356103	274	18		171	3
1354915	353	24		414	3		383			325	22	1356523	141	
	377	13		415	3	1355609	383		1356105	197	56	1356547	24	
	409	5	1355285	357	4	1355610	383	4		201	39		25	
1354916	353	24	1355286	357		1355619	383			205	39		26	
	377	13	1355305	322		1355620	383			207	29		27	
	409	5	1355322	312	1		383			211	31		28	
1354917	353	24	1355326	312	11	1355622	383			213	26		29	
	377	13	1355327	312	12	1355711	383	4	1356108	197	51		30	
	409	5	1355328	312	13	1355713	383	3		201	69		31	
1354918	430	19	1355329	312	14	1355714	383			205	81		32	
1354919	365	13	1355330	312	15	1355728	383			208	73		33	
1354921	365	13	1355331	312	16	1355729	383			211	37	1356556	385	
1354922	365	16	1355332	312	19		383			213	31		417	
	397	6	1355334	312	21	1355731	383		1356115	168	21	1356557	385	
	430	7	1355335	312	20	1355740	383		1356125	197	31		417	
1354923	360	2	1355337	312		1355741	383		1356131	211	25	1356560	385	
	393	2	1355348	287	17		383			213	23		417	
	425	2		289	17	1355743	383		1356137	11	6	1356565	385	
1354956	411	10	1355354	357		1355748	383		1356292	386	3		417	
	413	10	1355355	357		1355749	383			390	3	1356566	385	
1354961	398	26		357			383			418	3		417	
1354962	379	37	1355357	357		1355751	383	4		422	3	1356574	385	
	381	37	1355366	357		1355752	383		1356309	287		1356575	385	
1354967	411	14	1355367	357		1355757	383			291		1356578	385	
	413	14		357		1355758	383			295		1356580	417	
1355127	355	3	1355369	357			383			299		1356581	417	
1355145	355		1355390	357		1355760	383		1356313	198	81	1356583	385	
1355146	355		1355391	357		1355910	414		1356318	362	6	1356584	385	
	355			357			414			427	6		417	
1355148	355		1355393	357		1355911	414		1356369	131	40	1356661	386	3
1355157	355		1355409	357	3		414		1356390	168	10		390	3
1355158	355		1355410	357	4	1355928	414		1356391	113	38		418	3
	355		1355411	357			414		1356393	325	3		422	3
1355160	355		1355413	357		1355929	414		1356396	97		1356662	386	
1355177	355		1355414	357			414		1356404	168	11		390	
1355178	355			357		1355958	414		1356437	168	25		422	
	355		1355416	357			414			170	4	1356675	421	
1355180	355		1355433	357		1355959	414		1356438	168	3	1356676	421	
1355189	355	4	1355434	357			414		1356454	113	50	1356678	389	
1355198	355			357		1356058	414	4		117	49	1356679	389	
1355199	355		1355436	357			415	4	1356459	129	11		421	
	355		1355496	383	3	1356061	389			135	11	1356682	389	
1355200	355		1355497	383		1356062	389			137	12	1356687	389	
1355217	355		1355587	383		1356064	421		1356501	227	21	1356688	389	
	355			383		1356065	389			229	20		421	
1355219	355		1355589	383			421			231	50	1356691	389	

## NUMERICAL INDEX

PART NO	REF PAGE	NO	PART NO	REF PAGE	NO	PART NO	REF PAGE	NO	PART NO	REF PAGE	NO	PART NO	REF PAGE	NO
1356696	421			343	57	1358235	145	6	1358514	39	23	1358640	45	18
1356697	421			345	25	1358236	145	10	1358515	115	1	1358682	133	45
1356746	337			345	43	1358237	145	11		117	47		142	8
1356747	414	8		345	57	1358238	141	19		39	24	1358683	142	9
	415	8	1357364	343	39	1358239	141	17	1358517	39	25	1358684	142	10
1356748	383	15		345	39	1358240	141	25	1358520	40	1	1358837	261	1
	415	12	1357367	281	27	1358241	141	21	1358521	40	2	1358838	261	2
1356749	355	14	1357369	343	7		145	28	1358522	40	3	1358839	261	3
	357	14		345	7		147	21		45	27	1358840	261	4
	383	14	1357703	163	12	1358242	141	22	1358523	40	4	1358841	261	5
	414	9	1357707	164	12		145	29	1358524	39	34	1358842	261	6
	415	9	1357716	23	1		147	22		40	5	1358843	261	7
1356750	355	13	1357717	23	1	1358243	141	23	1358525	40	6	1358844	261	8
	383	12		61	1		145	30	1358526	40	7	1358845	261	9
1356751	357	13	1357721	23	1		147	23	1358527	40	9	1358846	261	10
	383	12		61	1	1358244	141	20	1358528	40	10	1358847	261	11
1356752	355	14	1357739	163	10		141	32	1358529	45	1	1358848	261	12
	357	14	1357740	163	2		145	27	1358532	45	2	1358849	261	13
1356759	415		1357741	163	18	1358245	141	18		53	27	1358850	261	14
1356762	415		1357742	163	3		147	18	1358534	45	3	1358851	261	15
1356767	415		1357743	163	19	1358276	39	16	1358536	45	7	1358852	261	16
1356783	415		1357745	163	13	1358277	39	17	1358539	45	10	1358853	261	17
	415		1357746	163	5	1358278	39	18	1358540	45	11	1358854	261	18
1356786	415		1357747	163	17	1358279	39	19	1358541	45	12	1358855	261	19
	415		1357748	163	14	1358282	39	36	1358543	45	13	1358856	261	20
1356791	415		1357749	163	15	1358284	37	23	1358545	45	15	1358858	281	21
1356838	40	21		164	11	1358287	37	26	1358547	41	3	1358859	198	96
	55	23	1358096	37	3	1358288	37	26	1358548	41	3		277	
1357046	275	16	1358097	37	5	1358293	37	30	1358549	41	4	1358861	277	1
1357048	275	6	1358098	37	6	1358295	37	31	1358550	41	5	1358862	277	27
1357049	275	13	1358099	37	7	1358297	37	33	1358551	41	6	1358863	277	2
1357176	275	12	1358150	37	8	1358298	37	34	1358552	41	7	1358864	277	3
1357178	275	10	1358151	37	9	1358299	37	36		42	17	1358865	277	4
1357179	275	9	1358153	37	12	1358327	119	45	1358553	41	8	1358866	277	5
1357180	275	11	1358155	37	14	1358351	429		1358554	41	9	1358867	277	6
1357184	149		1358156	37	15	1358352	397		1358555	41	10	1358868	277	7
1357196	322	10	1358157	37	16		397		1358557	41	2	1358869	277	8
1357197	322	1	1358158	37	17	1358355	397		1358562	40	14	1358870	277	12
1357199	322	3	1358159	37	18		397		1358563	40	15	1358871	277	13
1357201	322	5	1358161	37	20	1358500	43		1358564	40	16	1358872	277	14
1357352	343	8	1358162	37	21	1358501	37	38	1358565	40	17	1358873	277	15
	345	8	1358164	39	2	1358502	37	39	1358566	40	18	1358874	277	16
1357353	343	44	1358166	39	7	1358503	37	40	1358569	40	22	1358875	277	17
	345	44	1358173	39	12	1358504	37	41	1358574	39	30	1358876	277	18
1357354	343	10		39	12	1358505	37	42	1358625	39	31	1358877	277	19
	345	10	1358223	319	7	1358506	37	43	1358626	39	33	1358878	277	20
1357355	343	26	1358224	319	10	1358507	37	44	1358628	37	49	1358891	45	5
	345	26	1358225	319	10	1358508	37	45	1358629	37	50	1358892	39	26
1357356	343	5a	1358228	145	24	1358509	37	48	1358635	37	57	1358911	265	
	345	5	1358231	145	7		41	11	1358636	37	58	1358937	415	
1357361	343	25	1358233	145	5	1358510	37	46	1358638	42	6		415	
	343	43	1358234	145	12	1358512	39	21	1358639	41	1	1358940	415	

**NUMERICAL INDEX**

PART NO	PAGE	REF NO	PART NO	PAGE	REF NO	PART NO	PAGE	REF NO	PART NO	PAGE	REF NO	PART NO	PAGE	REF NO
	415			53	26	1360747	42	13	1360899	24	10	1361536	63	47
1358945	415		1360216	45	8	1360748	142	11	1361088	127	27	1361537	106	5
1358969	386		1360217	45	9	1360749	42	15	1361101	339	8		63	48
	390		1360220	40	11	1360759	55	28		341	8	1361538	63	38
	422		1360221	40	12	1360792	319	12	1361102	339	18	1361541	73	4
1358970	386	9	1360222	40	13	1360793	319	17		341	18	1361542	73	11
	390	9	1360224	40	19	1360794	319	18	1361104	155	14	1361544	97	23
	418	9	1360331	429		1360798	319	14	1361111	78	1	1361545	81	11
	422	9	1360334	429		1360802	71	6		87	13	1361546	105	2
1358972	386	14	1360339	429		1360804	71	9	1361112	78	1		90	2
	390	14	1360361	429		1360805	71	10	1361121	183	46	1361547	90	8
	418	14	1360364	429		1360806	71	10	1361139	75	15	1361548	269	28
	422	14	1360369	429		1360808	63	1	1361140	211	23	1361549	93	32
1358973	383		1360386	365	12		71		1361142	339	51	1361584	325	52
1359100	53	35		397	17	1360811	81	1		341	51	1361586	61	27
1359102	53	31		430	14	1360812	67	12	1361164	122	14	1361596	133	33
1359103	53	30	1360507	365		1360815	267			125	1	1361627	61	27
1359234	353			365			269			141	14	1361675	24	8
1359437	137	43		365		1360816	83	28		145	32	1361676	24	5
1359450	168	18		365	19	1360822	103	10		147	14	1361677	24	13
	170	3		397	5	1360823	83	13	1361276	415		1361678	28	1
1359452	113	2		430	20	1360824	83	21	1361281	415		1361679	28	11
1359460	127	24	1360508	430	13	1360841	115	2	1361302	386	4	1361680	28	4
1359569	155	12	1360534	379	27		117	5		390	4	1361681	28	6
1359580	23	21		381	27	1360859	43	4		418	4	1361682	28	16
	61	24	1360536	398	24	1360860	43	5		422	4	1361683	28	7
1359581	23	6	1360537	398	24	1360862	43	5	1361305	183	2	1361684	28	8
1359600	3	16	1360538	397	23	1360864	43	7		213	41	1361685	28	22
1359608	151	23	1360544	413	26	1360865	43	8	1361501	319	16	1361686	28	9
	153	5	1360548	365	7	1360866	43	9	1361502	319	15	1361687	28	10
	155	29	1360549	365	6	1360872	9	16	1361503	319	19	1361688	28	2
1359620	339	50		397	11	1360878	25	1	1361504	319	5		30	3
	341	50	1360718	3	11	1360879	25	3	1361505	319	18	1361689	28	12
1359624	198	95	1360725	40	20	1360880	25	26	1361508	67	14	1361690	28	14
	202	73	1360726	39	28	1360881	25	8	1361509	67	33	1361691	28	13
	211	8	1360727	39	29	1360882	25	10	1361520	63	11	1361692	28	15
	213	6	1360728	39	32	1360883	25	21	1361521	63	35	1361694	26	1
1359983	35	1	1360729	39	27	1360884	25	23	1361522	65	17	1361695	26	2
1360086	211	22	1360730	37	51	1360885	25	9	1361523	65	19	1361696	26	3
	213	21	1360731	42	5	1360886	25	11	1361524	104	6	1361697	26	7
1360127	383	15	1360733	45	26	1360887	25	13		65	13	1361698	26	4
1360146	201	33	1360734	40	25	1360888	25	14		72	9	1361699	26	5
	207	8	1360735	40	23	1360889	25	15	1361525	63	36	1361700	26	8
	211	49	1360736	40	24	1360890	25	16	1361526	65	4	1361701	26	6
	213	39	1360737	45	19	1360891	25	17	1361527	72	1	1361702	26	9
	253	28	1360738	45	4	1360892	25	18	1361528	72	6	1361703	26	11
1360203	37	2	1360740	42	7	1360893	25	19	1361529	68	1	1361704	26	11
1360204	37	10	1360741	42	8	1360894	32	13	1361531	71	7	1361705	26	11
1360210	37	35	1360743	42	9	1360895	25	2	1361532	71	12	1361706	26	11
1360211	39	22	1360744	42	10	1360896	24	11	1361533	71	2	1361707	26	12
1360213	45	2	1360745	42	11	1360897	24	1	1361534	69	10	1361708	26	12
1360215	45	2	1360746	42	12	1360898	24	3	1361535	63	46	1361709	26	12



## NUMERICAL INDEX

PART NO	PAGE	REF NO	PART NO	PAGE	REF NO	PART NO	PAGE	REF NO	PART NO	PAGE	REF NO	PART NO	PAGE	REF NO
1361710	26	13	1361771	139	7	1361833	33	37	1361893	31	19	1362387	397	12
1361711	26	13	1361772	139	4	1361834	33	10	1361894	25	6	1362390	379	11
1361712	26	13	1361773	139	5	1361835	33	27	1361895	31	21		381	11
1361713	26	13		32	1	1361837	31	2	1361896	25	22	1362433	379	40
1361714	26	10	1361774	139	6	1361838	31	5	1361897	25	7		381	40
1361715	26	10	1361775	139	8	1361839	31	3	1361898	25	12		411	35
1361716	26	10	1361776	139	9	1361840	31	6		32	7		413	35
1361717	27	18	1361777	139	10	1361841	31	7	1361948	361	14	1362459	267	1
1361718	27	24	1361779	139	12	1361842	31	8		394	13		269	1
1361719	27	25	1361780	139	13	1361843	31	9		426	14	1362460	267	2
1361720	27	1	1361781	139	14	1361844	31	11	1362000	25	24		269	2
1361721	27	2	1361782	139	15	1361845	31	12	1362001	25	25	1362461	267	3
1361722	27	4	1361783	139	16	1361846	31	14		28	17		269	15
1361723	27	5	1361784	139	17	1361847	31	15	1362002	25	4	1362462	269	3
1361724	27	6	1361785	139	18	1361850	260	11	1362003	24	4	1362463	269	4
1361725	27	7	1361786	139	21	1361851	260	1		25	5	1362464	269	5
1361726	27	9	1361787	139	22	1361852	260	5	1362005	24	2	1362465	269	6
1361727	27	10	1361788	139	25	1361853	260		1362006	24	12	1362466	269	10
1361728	27	11	1361789	139	26	1361854	260	7	1362007	24	6	1362467	269	7
1361729	27	12	1361791	29	4	1361855	260	15	1362008	24	7	1362468	269	9
1361730	27	13	1361794	151	27	1361856	260	2	1362009	24	9	1362469	267	4
1361731	27	14	1361797	151	28	1361857	260	13	1362011	28	20		269	11
1361732	27	15	1361798	30	2	1361858	260	3	1362012	28	3	1362470	267	5
1361733	27	16	1361801	30	17	1361859	260	4	1362013	28	19		269	14
1361734	27	17	1361802	30	9	1361860	260	12	1362015	28	5	1362471	267	6
1361735	27	8	1361804	30	11	1361861	260	10	1362016	27	22		269	12
1361736	27	19	1361805	30	12	1361862	260	6	1362017	29	6	1362472	267	8
1361737	27	23	1361806	30	13	1361863	260	8	1362036	258	10		269	17
1361738	27	20	1361807	30	14	1361864	260	9	1362037	258	8	1362714	5	9
1361739	27	21	1361809	33	9	1361865	260	14	1362038	258	12	1363000	267	10
1361740	29	5	1361810	33	5	1361868	30	19	1362039	258	13		269	16
1361742	29	3	1361811	33	2		32	11	1362040	258	15	1363003	72	7
1361743	29	1	1361812	33	38	1361873	29	7	1362042	258	14	1363004	72	8
1361744	29	9	1361813	33	25		33	31	1362049	9	5	1363006	72	5
1361745	29	10	1361814	33	7	1361875	30	16	1362052	9	8	1363862	133	34
1361746	29	11	1361815	33	4	1361878	30	18	1362053	9	9	1363885	227	11
1361747	29	12	1361816	33	3		33	36	1362058	9	14		235	5
1361749	32	9	1361817	33	1	1361879	30	7	1362061	9	17	1363886	247	6
1361750	32	6	1361818	33	11	1361880	33	8	1362062	9	18	1363896	113	6
1361751	138		1361819	33	12	1361881	31	20	1362063	9	19	1363916	3	8
1361752	32	4	1361820	33	13		33	33	1362064	9	19	1363917	3	9
1361753	32	5	1361821	33	15	1361882	33	35	1362065	9	7	1363918	3	10
1361754	32	2	1361823	33	18	1361884	33	19	1362069	211	52	1363921	168	12
1361755	32	9	1361824	33	20	1361885	29	8		213	45	1363956	165	13
1361756	32	10	1361825	33	17		32	7		274		1363957	165	14
1361760	32	8	1361826	33	32		33	29	1362070	55	22	1363958	165	12
1361761	32	3	1361827	33	21		33	34	1362084	277	15	1364271	309	13
1361765	151	30	1361828	33	22	1361888	31	18	1362114	37	52	1365062	430	15
1361766	151	29	1361829	33	23	1361889	25	20	1362115	37	53	1365140	377	10
1361768	139	1	1361830	33	24		31	17	1362116	37	54	1365276	299	45
1361769	139	2	1361831	33	28	1361890	31	16	1362117	37	55	1365500	429	
1361770	139	3	1361832	33	26	1361891	31	13	1362118	37	56	1365502	429	

**NUMERICAL INDEX**

PART NO	PAGE	REF NO	PART NO	PAGE	REF NO	PART NO	PAGE	REF NO	PART NO	PAGE	REF NO	PART NO	PAGE	REF NO
1365505	429		1367474	198	80	1368860	274	4		413	21	1371211	273	17
1365514	429		1367517	138	1	1368861	274	6	1369357	353	6	1371212	273	16
1365517	429		1367519	138	2	1368862	274	1		379	18	1371214	273	14
1365523	429		1367520	138	3	1368863	274	10		381	18	1371237	51	12
1365825	40	25	1367522	138	4	1368917	151	14		411	21	1371429	303	2
1365859	181	57	1367523	138	5	1368928	45	25	1369439	67	39		303	2
1365860	181	58	1367524	138	6	1368929	229			93	32	1371524	53	28
	183	23	1367525	138	7	1368930	247		1369443	68	6	1371582	53	17
1365876	278	1	1367526	138	8	1368949	23	25		73	5	1371584	35	5
1365877	278	2	1367527	138	9	1368980	151	14	1369450	122	5	1371592	147	
1365887	21	6	1367541	39	15		151	14		147	6	1371595	35	1
1365888	251	16		39	15	1368981	145		1369456	113	29	1371599	121	7
1365894	125	13	1367542	39	6	1368983	211	38		115	19	1371601	421	
1365895	151	31		39	6	1368998	198	77		117	52	1371602	389	
1365923	35	1	1367543	45	16	1369038	141	6		119	19	1371605	389	
1366569	385		1367633	211	23	1369039	69	29		125	3	1371606	421	
	417		1367639	283	5	1369048	145	13		127	17	1371608	389	
1366733	385		1367640	198	88	1369049	145	8	1369457	113	29	1371631	385	
	417			201	55	1369065	164	13		115	19	1371652	28	23
1366736	385			205	55	1369066	163	21		117	52		35	5
	417			207	20		164	19		119	19	1373813	198	75
1366739	385		1367649	75	14	1369286	87	8		125	3		227	
1366741	417		1368054	125	1	1369323	397			127	17	1373814	229	
1366742	385		1368061	253	21		397		1369470	244	1	1373819	339	62
1367100	275	14		253	21		397		1369499	197	63		341	56
1367101	275	18		257	9		397		1369548	421		1373821	253	10
1367102	275	15	1368071	197	67		429		1369549	389		1373822	137	35
1367103	275	17	1368073	229	47		429		1369572	117	37	1373823	137	36
1367104	275	21		231	42		429			125	18	1374056	145	1
1367106	275	19		233	40	1369324	397			164		1374057	141	32
1367107	275	20	1368074	197	66		397		1369604	365			145	41
1367119	163		1368313	365			397			365			147	32
1367137	9	20	1368314	365			397		1369606	365		1374107	47	15
1367148	9	44	1368400	429			429		1369609	365		1374108	49	36
1367154	9	45	1368411	397		1369328	381			365		1374188	9	13
1367190	25			397		1369333	397	22	1369611	365		1374190	9	15
	27		1368445	397			430	18	1369613	365		1374323	51	11
	28		1368656	351	6	1369344	358	5		365		1374549	11	15
	30			373	10		359	6		429		1374601	111	14
	31		1368790	30	8		391	6	1369617	365		1374603	58	8
	33		1368848	274	9		392	6	1369625	397		1374604	58	9
1367191	33	14	1368849	274	2		423	5		397		1374611	135	34
1367430	287	3	1368850	274	11		424	6	1369627	397			137	37
	289	3	1368851	274	12	1369345	358	5		397		1374615	137	40
1367431	325	15	1368852	274	13		359	6	1369632	429		1374620	35	11
1367433	125	6	1368853	274	14		391	6	1369640	429		1374621	201	57
1367434	125	12	1368854	274	15		392	6	1369737	111	46		277	
1367435	125	14	1368855	274	16		423	5	1370736	28	21		51	17
1367462	198	77	1368856	274	17		424	6	1370927	157	15	1374622	251	2
1367472	190		1368857	274	7	1369356	353	6	1370941	145	38	1374623	248	
	198	86	1368858	274	3		379	18	1371208	273	10		251	13
1367473	198	89	1368859	274	8		381	18	1371209	273	12	1374630	99	1

## NUMERICAL INDEX

PART NO	REF PAGE	REF NO	PART NO	REF PAGE	REF NO	PART NO	REF PAGE	REF NO	PART NO	REF PAGE	REF NO	PART NO	REF PAGE	REF NO
1374631	99	7		137	25	1375037	164	5		117	36	1376429	164	8
1374632	99	9	1374932	76	8	1375047	164	3	1375713	115	14	1376439	283	7
1374633	99	13		94	8	1375048	319	13		117	25	1376440	283	7
1374634	99	14		94	8	1375049	319	13	1375722	153	7	1376448	93	31
1374635	99	23	1374933	94	11	1375125	19	11	1375744	153	12	1376449	157	12
1374636	99	15	1374935	106	1	1375128	19	13	1375779	133	43	1376557	321	1
1374638	97	1	1374936	106	8	1375129	19	12	1375786	170	12	1376568	115	26
1374640	97	11	1374939	94	4	1375132	23	25	1375787	201	2		117	39
1374642	97	21	1374940	93	23	1375134	23	26		205	2	1376570	115	12
1374643	81	23	1374941	93	20	1375135	201	58	1375826	170	5	1376571	115	16
	97	25	1374942	93	24		205	58	1375834	170	1		117	44
1374644	97	26	1374943	93	20		207	37	1375835	170	2	1376572	133	45
1374645	104	3	1374944	93	30	1375140	35	12	1375844	201	53	1376576	153	24
	72	4	1374946	93	27	1375141	35	1		205	53	1376577	170	19
	89	1	1374947	93	34	1375144	35	2		207	18	1376581	181	52
1374648	104	2	1374948	93	2	1375145	35	4	1375847	201	25		181	56
1374649	94	9	1374949	93	12	1375148	287	43		207	1		183	12
	97	29	1374951	105	6		289	43	1375848	170	8	1376590	193	
1374651	103	1		90	7	1375151	93	28		201	31	1376607	145	44
1374652	103	4	1374953	105	12	1375155	20	9		208	80	1376608	201	32
	88	4	1374954	105	3	1375157	201	59	1375878	202	102		237	
1374653	103	9	1374955	105	8		205	59		205	26	1376609	113	65
	88	8	1374956	105	9		208	61		207	55	1376612	202	79
1374654	103	11	1374958	161	1	1375158	201	60		37	59	1376613	168	13
1374655	95	4	1374959	161	2		205	60	1375901	37		1376614	133	50
1374657	102	1	1374960	161	3		208	62		42		1376616	133	51
1374659	102	4	1374961	161	4	1375160	327		1375902	142		1376617	231	17
1374660	102	5	1374962	161	6	1375161	327			37			233	16
1374661	102	6	1374963	161	7	1375162	327			42		1376618	231	29
1374662	102	7	1374965	99	25	1375163	331		1375905	141	19		233	28
1374663	102	8	1374966	99	27	1375164	331		1375952	55	6	1376619	231	24
1374664	102	10	1374967	149		1375165	331		1375953	47	26		233	23
1374665	102	11	1374969	99	30	1375173	283	3	1375954	47	5	1376620	29	1
1374666	102	12	1374970	99	31	1375174	153	1		49	17	1376621	141	
1374667	102	14	1374971	97	3	1375183	287	47	1375989	75	1	1376654	257	10
1374669	101	1	1374972	269	8		289	47	1376120	429		1376655	201	26
1374670	101	2	1374973	267	7	1375186	5	8	1376131	397			208	76
1374671	101	9		269	13	1375189	20	11		397		1376661	201	23
1374672	101	12	1374974	99	13	1375193	287		1376161	397			205	23
1374673	101	14	1374975	99	13	1375196	53	29		397		1376666	115	23
1374674	101	16	1374976	102	1	1375201	111	7	1376164	397			117	19
1374750	9	41	1374977	102	1	1375214	7	7		397			119	38
1374916	151	24	1374978	97	4	1375230	111	22	1376423	361	2	1376672	5	8
1374917	151	20	1374979	97	4	1375231	111	4		362	2	1376675	9	2
1374925	101	17	1374983	161	9	1375240	111	1		394	2	1376676	9	2
1374926	101	19	1374984	161	10	1375597	471			426	2	1376706	201	30
	84	18	1374985	161	11	1375604	53	24		427	2	1376712	201	1
1374927	101	22	1374986	161	12	1375642	53	20	1376424	361	1		205	1
	84	21	1374987	161	13	1375693	153	13		362	1	1376713	201	1
1374928	101	26	1375029	164	10	1375696	153	2		394	1		205	1
1374929	101	29	1375030	164	17	1375703	189			426	1	1376718	198	76
1374930	135	26	1375031	164		1375711	115	11		427	1	1376719	198	76

## NUMERICAL INDEX

PART NO	PAGE	REF NO	PART NO	PAGE	REF NO	PART NO	PAGE	REF NO	PART NO	PAGE	REF NO	PART NO	PAGE	REF NO
1376722	23	24	1377259	335	11	1378692	379	30		55				26
1376725	133	9	1377260	335	12		411	25	1380754	453	36			27
1376726	153	14	1377261	335	8	1378693	381	30	1380757	283	7			28
1376727	133	56	1377264	327	2		413	25	1381354	375				29
1376730	133	19		329	2	1378694	351	10		375				30
1376731	133	17	1377265	327	2		373	14	1381357	375				31
1376732	187		1377266	327	2	1378698	351	9		375				32
1376743	309	34		329	2		373	13	1381359	375				33
1376744	309	29	1377267	331	2	1378699	351	10		375		1382974	141	4
1376745	309	30	1377268	331	2		351	9	1381362	375		1383012	20	10
1376747	221		1377269	331	2		373	13		375		1383013	58	8
1376748	183	9	1377689	141			373	14	1381560	392	1	1383331	197	37
1376749	283	6	1377867	257	8		379	30	1381561	392	1		205	71
1376763	55	15	1377992	5	15		381	30	1381595	365	8		207	40
1376766	20	12	1377998	213	1		411	25		397	13		211	1
1376767	202	103	1378300	42	4		413	25	1381771	397		1383401	241	
	205	27	1378307	9	20	1379454	211	20		397		1383421	243	
	207	56	1378317	49	1		223			397		1383450	297	28
1376769	133	14	1378318	51	13	1379459	392			397		1383455	297	32
1376770	133	15	1378319	51	14	1379460	392			429		1383457	297	33
1376771	133	16	1378320	47	8	1379481	205	64		429		1383458	297	30
1376777	133	21	1378322	39	8		207	41		429		1383461	297	29
1376779	133	57	1378323	39	9	1379506	339	48	1381772	397		1383463	305	3
1376782	170	16	1378324	39	10		341	48		397		1383466	297	36
1376789	49	35	1378325	39	11	1379507	339	49		397		1383559	3	12
1376792	119	1	1378326	39	14		341	49		397		1383563	253	9
1376794	119	2	1378327	39	15	1379682	379	30		429		1383571	111	7
1376795	119	9	1378328	39	15		411	25	1381921	113	3	1383574	111	2
1376876	55	27	1378329	39	6	1379683	381	30		125	20	1383600	141	10
1376952	39	1	1378330	39	6		413	25	1381923	320	5	1383601	141	12
1377014	37	27	1378331	39	12	1379684	351	10	1382059	141	27	1383602	141	13
1377016	37	27	1378413	201	9		373	14		147	27	1383777	311	25
1377017	37	27		231		1379685	351	9	1382111	9	3	1383778	181	5
1377018	37	27	1378463	119	25		373	13	1382112	9	4	1383783	155	12
1377021	133	46	1378464	119	18	1379687	353	16	1382113	9	3	1383784	155	32
1377022	142	11	1378465	119	24		409	13	1382114	9	4	1383922	39	38
1377023	39		1378470	119	35	1379758	319	4	1382306	5	41	1383994	133	45
	39		1378515	244	4	1379761	161	16	1382316	325	46	1383995	133	45
1377047	265	4	1378537	115	4	1379763	161	14	1382320	303	1	1383996	133	45
1377048	265	6	1378555	35	1	1380036	411	3	1382673	139	11	1383997	53	
1377049	265	21	1378558	35	1		413	3	1382680	24		1383999	277	1
1377050	265	13	1378600	309	6	1380115	361	16		25		1384000	277	4
1377051	265	20	1378625	119	28		362	11		26		1384001	277	6
1377052	265	19	1378636	119	27		394	15		27		1384003	277	29
1377053	265	23	1378647	122			426	16		28		1384005	277	28
1377067	265	2		122			427	11		29		1384006	33	28
1377069	42	16	1378690	379	31	1380268	147	19		30		1384008	31	15
	42	9		381	31	1380576	37	47		31		1384037	277	2
1377255	335			411	24	1380583	47			32		1384429	312	3
1377256	335	7		413	24		49			33		1384837	119	23
1377257	335	9	1378691	351	7		51		1382681	24		1385712	147	4
1377258	335			373	11		53			25		1385719	147	25

## NUMERICAL INDEX

PART NO	REF PAGE	NO	PART NO	REF PAGE	NO	PART NO	REF PAGE	NO	PART NO	REF PAGE	NO	PART NO	REF PAGE	NO
1385859	217		1391321	205	57	1394915	35	12	1451092	343	5b	1456567	87	3
1385860	233			207	54	1394923	287	37		345	5	1456568	87	3
1385861	239			277			289	37	1451568	115	38	1456569	81	2
1385862	211	20		277		1394930	287			117	33	1456570	81	2
	225			277			291			127	2	1456571	81	2
1385863	205	69	1391375	299	38		295		1451788	361	10	1456572	81	2
	207	43	1391377	299			299			394	10	1456573	81	2
1385873	299	48	1391543	287		1394931	291	2		426	10	1456574	81	2
1386216	5	5	1391544	287		1394932	291	1	1452143	257	16	1456575	81	2
1386217	5	7	1391545	287		1394942	289		1452145	253	10	1456576	81	2
1386220	5	43	1392495	9	11		293		1452270	339	60	1456577	97	2
	5	43	1392496	9	10		297			341	54	1456581	97	2
1386221	5	42	1392536	37	60		301		1452424	45	6	1456582	97	2
	5	42	1392538	37	61		301		1452595	299	41	1456583	97	2
1386791	78	1	1393160	299	43	1394943	289		1452596	299	42	1456584	97	2
1386795	35	11	1393427	47			293		1452798	147	4	1456585	97	2
	78	21		51			297		1453153	281	19	1456586	97	2
1386799	35	1		55		1395168	349	6	1453351	273	4	1456587	97	2
1386800	35	1	1393580	47			351	5	1453352	273	3	1456588	63	31
1386806	295	1		49			371	6	1453354	273	9	1456589	63	31
	297	1		51			373	6	1453358	273	6	1456590	63	31
1386807	297	1		53			375	5	1453362	273	30	1456591	63	31
1388391	105	7		55			405	6	1453363	273	31	1456592	63	31
1388573	299	49	1394002	273			407	5	1453364	273	1	1456593	63	31
1388579	111	28	1394003	273		1395169	391	2	1453375	273	26	1456594	63	31
1389096	37		1394008	155	34		392	2	1453377	273	28	1456595	63	31
1389097	37	22	1394879	293	15	1395172	359	2	1453379	273	29	1456640	161	17
1389359	35	1		293	5		423	2	1453385	273	27	1456641	161	15
1389365	129	22	1394881	293	11		424	2	1453386	273	15	1457015	63	
1389475	183	26		293	23	1395285	379	29	1453387	273	22		65	
1389476	187	23	1394882	293	18		381	29	1453562	258			67	
1389477	187	24		293	6		411	26	1453580	47			68	
1389479	187	19	1394884	293	34	1396943	397			49			69	
1389480	187	20	1394885	293	17	1398493	365			51			72	
1389485	183	18		293	3	1398512	365			53			73	
1389488	35	1	1394886	293	31	1398541	365			55			75	
1389497	117	13	1394887	293	30	1398595	397		1453779	141	4		76	
1389498	117	55	1394888	293	28	1398645	365		1455262	147	25		93	
	147		1394893	293	19	1398951	397		1455306	164	15	1457047	207	54
1389499	170	19		293	7	1450104	211	11	1455310	164	1		277	
1389608	287	48	1394894	293	29	1450122	277		1455404	329		1457048	277	
	289	48	1394895	293	32		277		1455405	329		1457062	55	10
1390182	397	15	1394899	293	34	1450126	164	14	1455601	47	9	1457120	207	37
1390416	429		1394901	293	1		164	16	1455602	51	5	1457161	103	
1390417	429		1394902	293	1	1450293	283	1	1455674	30	4		104	
1390425	429		1394903	293	13	1450356	283	2	1455675	30	1		105	
1390607	3	26	1394904	301	3	1450696	53	12	1456071	53	24		106	
1390610	299	40	1394907	293	2	1450702	190		1456472	333			157	
1390611	3	23	1394908	293	2	1450928	260		1456473	333			161	
1390614	3	26	1394909	293	14	1450929	260	1	1456474	333			93	
1390858	139	27	1394912	293	20	1450930	260	2	1456565	71	4		94	
1391232	67	31		293	8	1450931	260	3	1456566	71	4		95	

**NUMERICAL INDEX**

PART NO	REF PAGE NO	PART NO	REF PAGE NO	PART NO	REF PAGE NO	PART NO	REF PAGE NO	PART NO	REF PAGE NO
	97		418 15	2304216	389	3021203	325 53	8600460	383
	99		422 15	2304575	421	3021238	67 40	8600463	383
1457164	99 22	2013089	386 16		421		83 32	8600505	383
1457312	23 10		390 16	2304592	421	3021239	67 40	8600508	383
	23 5		418 16		421		83 32	8600510	383
	61 5		422 16	2304802	421	3021240	67 40	8600513	383
1458009	197 43	2013099	386 8		421		83 32	8600555	383
	202 81		390 8	2304960	421		99 29	8600558	383
	205 74		418 8	2304977	417	3021390	25 27	8600560	383
	207 52		422 8	2305335	421		39 37	8600563	383
	211 12	2021957	183 5	2305742	389	3021391	25 27	8600706	414
	213 12	2022013	197 69		389		39 37	8600709	414
1458089	55 11		211 48	2306235	421	3021392	25 27	8600714	414
1458350	102 3	2022532	273 13	2306774	385		39 37	8600806	415
1458351	102 3	2022534	273 19		417	8500005	423	8600809	415
1458802	329 3	2022535	273 20	2307561	421	8500006	423	8600814	415
1458803	329 4	2022538	273 23	2307580	417	8500007	358	8600906	414
	333 14	2022566	111 21		417	8500008	358	8600909	414
1458804	329 5	2026608	211 22	2307773	389	8500009	391	8600914	414
	333 4		213 21	2309026	389	8500010	391	8601006	415
1458805	329 6	2032230	312 3		389	8500011	424	8601009	415
1458806	333 2	2033502	343	2309044	385	8500012	424	8601014	415
1458810	333 7		343 b	2309221	421	8500013	359	8601106	385
1458811	333 10	2033503	345	2309353	389	8500014	359		417
1458813	329 6	2033592	205 36		389	8500275	392	8601109	385
1458814	333 2	2033602	317 6	2309410	389	8500276	392		417
1458818	333 10	2034459	11 11	2309480	385	8600006	355	8601112	385
1458819	333 2	2034520	117 48		417	8600009	355	8601114	417
1458823	333 10	2034902	253 20	2309766	353 17	8600014	355	8601115	385
1459037	207 33	2034921	274		377 22	8600020	355	8601206	421
1459173	9 12		274		409 18	8600056	355	8601207	389
1459382	104 12	2035530	197 25	2309770	385	8600059	355	8601209	421
1460225	139	2035531	201 24		385	8600064	355	8601210	389
1460824	207 33	2037064	139 19	2309799	11 16	8600070	355	8601213	389
1462551	353 28	2037065	139 20	2310036	385	8600101	355	8601214	421
	377 30	2037066	139 23		385	8600151	355	8601216	389
	409 23	2037067	139 24	2310270	389	8600206	357	8602406	385
1465504	379 35	2302115	385	2310912	421	8600209	357		417
	381 35	2302410	389	2311141	385	8600214	357	8602409	385
	411 13	2302486	385		417	8600256	357		417
	413 13	2302899	337 11	2311434	385	8600259	357	8602412	385
1479128	53 32	2303455	417		385	8600264	357	8602414	417
1545677	30 10	2303489	385		417	8600302	357	8602415	385
2004005	125 39	2303532	389		417	8600307	357	8602506	421
	151 22	2303824	389	2311691	389	8600352	357	8602507	389
	151 22	2303871	385		389	8600357	357	8602509	421
	155 21		385	3002338	23 29	8600405	383	8602510	389
	430 21		417		45 20	8600408	383	8602513	389
2013075	355 10		417		61 30	8600410	383	8602514	421
	383 9	2303899	389	3002534	75	8600413	383	8602516	389
2013088	386 15	2303951	385	3003343	319 20	8600455	383	8603406	385
	390 15		417	3012611	263	8600458	383		417

## NUMERICAL INDEX

PART NO	REF PAGE NO	PART NO	REF PAGE NO	PART NO	REF PAGE NO	PART NO	REF PAGE NO	PART NO	REF PAGE NO
8603409	385	8603507	389						
	417	8603509	421						
8603412	385	8603510	389						
8603414	417	8603513	389						
8603415	385	8603514	421						
8603506	421	8603516	389						